

Cover page

WRITING IN SCIENCE

A Basic Guide for Authors and Editors
Whose Native Language Is Not English

Dr Jaffar M Al-Bareeq

I am grateful to my teachers in editing: Dr Steven Lock, the former Chief Editor of British Medical Journal, and Professor W F Whimster, the late editor of British Medical Journal, and Professor Alex Paton, former Dean of Post-graduate studies (London) and former editor of British Medical Journal. As well as I am grateful to Professor Charles H Hennekens and Julie E Buring of Harvard University whom their guidance were extremely valuable.

I am indebted very much to Dr Dhaliwal who reviewed my manuscript for the second edition. She had reviewed the manuscript with a warmth of appreciation and understanding, a sympathetic insight and friendliness of expression for which I cannot be sufficiently grateful.

Shakespeare said, "The spoken word is often buried with one's bones – it is the written word that lives long after."

Writing in Science

A basic guide for authors and editors
whose native language is not English

Dr Jaffar M Al-Bareeq

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The need to do research and report it increases continuously due to scientific progress and the personal need for promotion. To report research you need to present it in a language. Therefore, you need to know the basics of that language.

English had become the international language of scientific communication. In the last twenty years, the number of authors and editors whose native language is not English has increased substantially. In the last few years, their contribution to the English literature has reached 80% of all published research in English language.

This guide is meant to introduce the basics of the language to authors and editors whose native language is not English. This is a simple guide not a reference. Further reading is recommended before you begin writing your own research. A list of the recommended books is mentioned in the last page.

Use simple English, which can be understood by the majority. It is unfortunate that beginners in the art of writing try to impress the reader by being showy and copying the style of great writers or authors in their field of medicine. Using simple language is the best way to reach your readers and editors. Deliver your message in a simple language and few words; being pretentious does not help your research.

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Unreported research might as well not have been done because scientifically it has not been documented; therefore, it does not add to the bulk of knowledge available in medicine. It is like the tree, which fell down, but nobody heard it. Therefore, it is difficult to say whether it has made a sound or not because a sound is called sound whenever it is heard or measured.

Caricature in between

Writing Aim

Shakespeare said, "The spoken word is often buried with one's bones - it is the written word that lives long after." Human beings aspire eternity; writing is one form of it.

The main aim in writing in medicine is to promote scientific progress and to add a new dimension for scientific achievement, without which we would be practising primitive or witch medicine.

Writing is an exercise that demands the highest quality of intellectual ability. Unable to write indicates either ignorance or deficient intellectual ability.

Amy Tan, the novelist said, "I am a writer. And by that definition, I am someone who has always loved language. I am fascinated by language in daily life. I spend a great deal of my time thinking about the power of language - the way it can evoke an emotion, a visual image, a complex idea, or a simple truth."

Simple truth is what we report in medicine and science. The message should be conveyed with the minimum of words and the maximum of clarity, complex words do not serve your purpose. The language used should be objective rather than subjective. We do not use emotive or persuasive language. We mainly report facts not fiction. A statement in technical or objective language tells us about the patient, procedure, or process. It is informative, impersonal, and not expressive, it could be either the use of impersonal "you" or the use of impersonal passive "it".

Writing is a message, which can be conveyed by many methods, as there are many ways to skin a cat. You have to bear in mind that you will always be an amateur if you do not read and practice writing.

Which Research Should You Do?

Research is an essential part of the progress of science. Research prevents stagnation of knowledge and thoughts. Those who do not perform research are invariably behind those who do.

Define the problem before you start your research and the rest would be relatively easy. Once you have defined a problem, you are ready to search the literature about it.

Ask yourself few questions: why should I do this research? When? And how?

Before you decide on the topic, research it, look it up in the internet, get your references from the library or the internet, speak with your colleagues about it and stick to ethical guidelines. Make a card for each reference. Organize your material before writing. Keep your raw data and references in a safe place in case they are needed for the future. Some journals might request your raw data for verification of authors' participation.

If you have difficulty in finding an idea or topic and you are stuck, use the following techniques to generate ideas:

1. Brain storming, which is to concentrate on the problem and then quickly write down your associations - remember that the human brain concentrates in bursts of seven minutes duration; therefore, you have to use the most during that period.
2. Free writing is to set aside a time, reflect on the problem and write non-stop. Associate one information with another.
3. Clustering is non-linear note taking. Through clustering, multitudes of choices are written through our life or clinical experience.

Examining and Evaluating Your Sources:

1. Set up a time to read the references you would like to consult. Plan to finish all your reading and note taking at least a week before you start writing.
2. Read critically and look for facts supported by evidence.

Title

It should interest the reader; it should be informative, correct, descriptive and concise. It should not be declarative. It should be interesting but avoid being sensationalist and using strings of adjectives or nouns, for example, hyperlipidemic, hypertensive, diabetic HIV patients or patient diet management program.

A good title will make the reader curious. A good title is a guide. A good title hints at the limits of information in the research paper. A good title should reveal information not hide it, for example, Surgical Treatment of Hypopharyngeal Carcinoma; such title is broad, if it is not restricted, it would be impossible to research it from all the important aspects that pertain to it. Better title would be: Surgical Treatment of Hypopharyngeal Carcinoma: Feasibility, Mortality, and Results (in this way it is restricted).

The title page is the first to be seen by the editor; if it is full of mistakes, it would give a bad impression to what it would follow. It should include the following:

- (1) The title of the article.
- (2) Correct full name of each author and the highest academic degree. The author who had contributed the most comes first and the least last.
- (3) Affiliation of the authors at the time they did the work.
- (4) Name and address of the institution to which the work should be attributed.
- (5) Capitalize all the words of the title except articles (such as 'a' and 'the'), prepositions (such as 'for', 'among', 'between', and 'to'), and coordinating conjunctions (such as 'and', 'but' and 'or').

What is a good title?

- A good title will make the reader curious.
- A good title is a guide.
- A good title hints at the limits of information in the research paper.
- A good title should reveal information not hide it (Surgical Treatment of Duodenal Ulcer: Outcome and Safety).
- A good title should not include the name of the country where the study was done.

Abstract

It should answer the following questions: Why what was done was done? What was done? What was found? What was concluded? Include positive and negative data.

It should be factual and comprehensive containing the essence of all sections of the paper. Only the abstract of original articles should have a structured format. It should not contain references or any discussion and should not be more than 250 words.

The main components of a structured abstract are: 1. Objective is the aim of the study in simple words. 2. Design is the type of the study, whether retrospective or prospective, Cohort...etc. 3. Setting is where the study was done, in the eye department, hospital outpatient, school...etc. 4. Method is briefly described in two or three lines. 5. Result should be mentioned in five or six sentences. 6. Conclusion is the main message of your paper.

Introduction

It should describe briefly the problem; review briefly previously related publications and deficiency of knowledge supported by 3-5 citations. State the lack of knowledge in the area you are studying. The purpose or the objective of the study should be mentioned at the end of the introduction. The length of introduction should not be more than one A4 page; otherwise, it will become boring. A detailed critical appraisal of other studies should be left for discussion.

Method

Novel or modified procedure should be described in details to ensure replication. Measurement taken and statistical analysis should be described in sufficient details. Describe sampling procedure, design, equipments, exclusion, informed consent and ethical committee approval. Drugs and their dosages used in the study should be mentioned with their generic names. Method should never include result, discussion or any hypothetical assumption.

Result

Present results in logic sequence, clearly and concisely. Avoid repetition between text and illustrations. State briefly, what you did not find. Negative results are as important as the positive ones. Numbers should match all sections of the paper. Use uniform unit of measurement, SI or system international. No discussion, method or references should be included in the result.

Present patient's data first, number studied, gender, age, distribution and duration of follow up.

Detailed result should be mentioned in this section of the paper. Tables or graphs and figures are to be included here, but data from these should not be repeated in the text.

Tables and Figures

These should be included in the result section; it is not a replacement for the text, but augmenting it. Tables must be simple, identifying clear parameters. Units of measurements and statistical measures should be mentioned. Each table should be typed on a separate page, double-spaced including headings. Tables and figures should be numbered consecutively in Arabic numerals to correspond with the same number in the text. Never put all your result in tables, you must start with some text. It is advisable that tables should not be more than five columns by four rows - it is easier for the reader to read and visualize.

Figures should be professionally drawn and photographs should be sharp, glossy, unmounted black and white or colored prints. Photographs should protect the anonymity of the patient. Computer graphics are of great help.

Discussion

Summarize the major findings in your study. Discuss possible problems with method used. Discuss the clinical and scientific implications and interpretations of the findings and their limitations. Compare and contrast your observations or result with relevant studies and present status of knowledge with references. It is advisable that the discussion is concise, not protracted; it should be not more than one third of the total length of the manuscript (Introduction + Method + result + discussion). Discuss the contribution of your work to the existing body of knowledge.

Do not repeat data from introduction or result section unless warranted. In your discussion, distinguish between facts and opinions. In discussion, it is important and effective to list supporting and opposing arguments. An effective tactic for developing a list of opposing arguments is to discuss the issue with someone who disagrees with your findings.

During writing this section, it is the critical thinking that would help you to decide what to do, what is right or wrong, what works or does not work.

Discussion paragraphs, as any paragraph should be unified, coherent and well developed.

How to reason in your discussion?

There are two ways of reasoning in order to arrive at a certain conclusion, deduction and induction.

Deduction

Deduction is the reasoning from generalized statement (premise) to a particular conclusion. An argument is said to be valid if the conclusion is inevitably arises from the premise. Valid argument does not guarantee that the conclusion is true. If one or both premises are untrue, the conclusion will be untrue even though logically valid.

Examples:

1. *Some diabetics need insulin. Pancreatic failures need insulin. Therefore, pancreatic failures are diabetics.* This is valid argument and true conclusion.

2. *Meningitis patients receive antibiotics. Sinusitis patients receive antibiotics. Therefore, all sinusitis patients are meningitic.* It is valid argument but the conclusion is not true.

Induction

Induction may be looked upon as almost the opposite process to deduction. By 'induction', we mean the formulation of a general rule from a large number of particular instances. Thus, if we have seen a large number of hernia patients and each patient had haemorrhoids we may by induction arrive at the generalisation that all hernia patients have haemorrhoids. We should form such generalisations cautiously if they are based upon a limited number of examples and always be ready to change them if an example turns up that proves the generalization is wrong. This is the basis of scientific thinking: a generalization (hypothesis) is formed; experiments and investigations are devised to test it. This way of reasoning, though practised in an unconscious way even in ancient times, was only really established as a system in the early seventeenth century. It is particularly associated with Lord Bacon, the English essayist and pioneer of scientific method, who died in 1626.

A common misuse of induction is to generalise on an inadequate number of examples.

'Bahrainis never have appendicitis'. Such a generalisation was made by a physician thirty years ago, which was based on limited number of patients and a short period of practice in Bahrain. 'Young physicians today have no dedication to their profession', is another wrong statement, based perhaps on a handful of examples given extensive publicity in the hospital and one or two examples of which the speaker has first-hand knowledge; however ignoring the vast majority of young physicians whose dedication the speaker cannot possibly know anything about.

The real test of generalisation is whether there are any exceptions. If you formulate the generalisation 'All hernia patients have haemorrhoids', you will have to abandon it as soon as you come across one hernia patient who does not have haemorrhoids. People will try to defend their generalisations against exceptions by saying, 'It's the exception that proves the rule'. This is a twisted interpretation of that (admittedly ambiguous) dictum; its true interpretation is that the exception tests the rule (the old

meaning of 'prove'). If the rule cannot deal with the exception, then the rule, or generalisation, is wrong.

In your discussion you are mainly arguing and using logic to prove your point of the study. Therefore, it is fitting to remember that the ancient Greeks put the foundation of logic and the Arabs expanded on that concept:

Logos: is arguing soundly through facts, statistics and reasonable interpretations.

Pathos: values and attitudes.

Ethos: credibility and honesty

Conclusion

What is the message from the study? Do not put a general statement, which does not relate to your study.

You may recapitulate the main findings and their interpretations stressing clearly the "message" of the paper. Explain gaps and limitation of the study and how can future work continue. You can include some recommendations.

Doctors/researchers occasionally commit hasty generalization when they draw conclusions from insufficient or unrepresentative sample.

Abbreviation

Use an abbreviation that is well known or after explaining its meaning or writing it in full.

Abstract for Scientific Meeting

It is more or less similar to the abstract for original articles with minor differences. It should include the following:

The title of the paper and authors' names.

Introduction is the background and the aim of your study. It should be an abridgement of what was written in the study.

Methods it should be described in few sentences and it should include selection, exclusion and ethical committee approval.

Result, discussion and conclusion should be as described in the abstract.

1. You should have a precise concept of time from the beginning.
2. Read your talk; do not try to memorize.
3. Pronounce precisely.
4. Use slides, PowerPoint and multimedia.
5. Prepare for failure of equipment especially in the developing world, where technicians are paid peanuts and obviously recruited with low proficiency.

Non Sequitur

The Latin phrase non sequitur means “it does not follow.” People often commit this fallacy when their conclusions do not logically follow from their premises.

After you have completed the first draft, put your paper aside for a month or two if possible. This will give you a chance to return to it with a fresh approach. Reread the entire draft carefully several times and at least once aloud to listen for missing transitions or awkward constructions. Watch for careless grammar, spelling, or punctuation mistakes. More important, examine the content to see that you have kept to your objective. Provide ample evidence to support the assertions in your objective, and integrate your own findings with those of your sources.

References

Include only retrievable references; they should be comprehensive and relevant to the study, 25-40% should be within the last five years. Number your references consecutively in order in which they are first mentioned in the text. Identify references in text, tables and legends by Arabic numerals.

Unpublished and personal observation is not accepted as reference. Conference proceedings, only those published in a journal or in a book should be used. Journal title abbreviations should follow the pattern of Index Medicus. Two styles for writing references are available, Vancouver style is the commonest, few journals use Harvard style. The number of references should be reasonable. It is advised that for a case report 10-15 references and for a study 15-25 references are more than enough, whereas 40 references are reasonable for a major study.

Two referencing systems are available:

1. Vancouver Style of referencing: it is numbered consecutively in the order of their appearance in the text. Number of reference in the text should be in brackets or superscript. The name of the author can be cited with the number.
2. Harvard Style of referencing: is to list references at the end in strictly alphabetical order regardless of their appearance in the text. The author's name is cited in the text.

Badly written references might be a reason for rejection. It is interesting to read the following paper:

De lacey G, Wade J. How accurate are quotations and references in medical journals? BMJ 1985; 291:884-6.

In that paper the authors found that about 20% of references in BMJ were misquoted, 50% of these seriously misleading. Nearly 46% of all citations in the British journal of surgery were wrong, 39% of these were major error.

Indexes

Index medicus.

Excerpta medica.

Biological abstracts, chemical abstract.

Science citation index.

Journals cumulative indexes.

WHO index.

If you are beginner, it would be useful to resort to 'Reference manager program', which can produce bibliography in any style and incorporate the appropriate reference citation in the text.

The references should written as follows:

Journal Reference

Author/s. title of the article. Journal name and year; Volume: pages from -to.

Musaiger AO, Al-Saad JA, Al-Hooti DS, et al. Chemical Composition of Herbal Water Used for Medicinal Purposes in Bahrain. Bahrain Med Bull 1989; 11: 118-21.

Book Reference

Author. Title . City/country: publishing house, year: pages from-to.

Stephen WJ. Primary health care in the Arab world. England: Somerset House, 1992: 42-59.

Chapter in a Book Reference

Author of the chapter. Chapter title: Editors of the book. Book title. Edition. City: Publishing co, year: pages from-to.

Norman ME . Metabolic bone diseases. In: Behrman RE, Kleigmwi RM, Nelson WE, et al, eds. Nelson Textbook of Pediatrics. 14th ed. Philadelphia: WB Saunders Co, 1992: 130-46.

Internet Reference

Author of web site, title of web site. (If author's name is not available, begin with title of web site.) Publication dates.

Date site was accessed.

Web site address.

As a last step, check your citations to be sure that they are correct.

Letter to the Editor

This is the easiest way to get your name in publication and your name in the index medicus. A letter to the editor, and case report are recognized publications by International Federation of Science Editors (IFSE), the European Association of Science Editors (EASE) and Earth Science Editors (ESE).

Let us remember that the greatest development in science has been marked by a publication of a letter to the editor from Dr. Harry Griffin of Roslin Institute, Edinburgh, on 12th December 1997. That letter to the editor has informed the whole world of the greatest success in science; it was about cloning of “Dolly, the sheep”. This remarkable success in science, which will change our concept of treatment in the future by the use of stem cells, was signaled by a letter to the editor.

In a letter to the editor, consider the following:

1. The purpose of your letter
2. Are you commenting in favor or against the study in question?
3. Case presentation - some journals have no specific place for case presentation; they accommodate them in a letter to the editor.
4. Short communication of a study; that is if you are doing a long-term study and you wish to publish your preliminary result.

In the letter be courteous, specific, provide reasoned argument, not a biased opinion and be concise.

Case Presentation

Remember your ward round. It is the second easiest way to get yourself in publication. Before embarking on that task, take into consideration what is unusual about the case? Is it worth publication? Is the diagnosis or the management unusual? Do you have a special message to convey to the medical community?

Case presentation should be as follows:

1. Title should be short and interesting.
2. Authors, 2-3 are more than enough, more than that needs to be explained.
3. Small abstract, not structured.
4. Introduction, same as for a study but shorter.
5. Case history, which includes examination, finding and investigations, illustration and photos (strict confidentiality and informed consent should be observed).
6. Discussion, same as for a study but shorter.
7. References, not more than 15-20.

Review Paper

Two types of review papers

Meta Analysis

Data from different studies addressing the same question, combined and statistically analyzed, for example, does diabetes affect the optic nerve?

Systemic Review

Review of the same topic from studies in the last five years, objective and systematic, for example, diabetes treatment.

Review headings

Title, introduction, how the data were selected, presentation of data and conclusion. Never become partial in your presentation.

Ways of Impressing the Editor and the Reader

1. First case to be reported

Most of the time it is not true, and even if it is true it does not prove very much, adding little to our medical or scientific knowledge, except if it gives a novel insight into pathogenesis, diagnosis or management.

2. The appeal to authority

People frequently attempt to strengthen their arguments by quoting recognized authorities of high repute who support their view. This is perfectly legitimate when it is a question of facts, more doubtful when it is a matter of opinion. Expert opinion on one side can nearly always be matched by equally expert opinion, which says the opposite.

Further, before allowing yourself to be impressed by the authority quoted you should make sure he is an authority on the matter under discussion.

3. Acknowledgment

Should not be based on the position of who you are acknowledging but it should be on his actual contribution to the work. Many authors in our area acknowledge the minister or others in positions who have nothing to do with the research work published.

4. Pseudo-technical jargon

An argument presented with the maximum of technical vocabulary or even specially invented impressive words bewilders the reader, who do not know what the words mean, has some difficulty in checking the case put forward and is inclined to accept it because of its scientific-sounding language. This process is known as 'blinding with science'. For example, hyporesponsiveness, allospecificity, allotransplantation, psychochronometry.

5. Statistics

In induction, we realised that before we can make a generalisation we need a great deal of factual information. This is often obtained in the form of statistics. Statistical information can be very useful in showing a tendency or indicating a possibility. When we use it to try to prove something; however, we have to be very careful indeed. First, we have to be sure the figures were arrived at fairly. Much statistical information about human beings is the result of questionnaire or study on small cross-sections of the group to be investigated (a 'sample'). Several of the previously mentioned studies were published in the Gulf Medical Journals. Some questionnaire studies are of doubtful value, because it is not difficult to put questions in such a way that you get the answer you are hoping for most of the time- for example by starting the question with: Would you agree that... ?

Secondly, we have to be sure that if figures are based on a sample, it is either a true 'random' sample (one in which every member of the group to be investigated had an equal chance of being selected) or an accurately calculated 'select' sample (one in which the proportions of the various types of person interviewed are the same as in the total group). Thirdly, we have to be sure that the sample was large enough to ensure that freak replies or observations have not distorted the overall result. Finally,

we have to be sure that the interpretation put upon the figures is the only possible one.

It is often convenient when explaining something unfamiliar to compare it with something familiar or concrete to which it has some similarities, but as soon as we try to draw conclusions based on analogy, we are in a false position.

6. Emotive language

One field in which we see emotive language very clearly displayed is nationalism (Bahrain is for Bahraini people). It is necessary to separate the facts from the opinions or fact from fiction, the reasoning from the feelings; but the whole argument does not stand condemned because it is somewhat emotionally expressed. If, however, emotive language is used, one is justified in suspecting the whole argument. The essence of emotive language is that it is anti-logical and prejudices the point under discussion.

Example: Bahraini children suffer greatly from malnutrition and gastroenteritis because of poverty and economic destitution.

7. Advertising

In many papers from the Middle East, you will read in the abstract, method and discussion that the study was done in 'King X hospital of the University' or 'Prince XI Bin Al Hamad' ... etc, repeated several times. There is no need for that, because the affiliation of the authors at the time they did the study should be mentioned and that is enough.

Writing Ethics

Ethical consideration in research had arisen due to plagiarism, forgery and violation of human rights and dignity, as it happened with the following:

1. Nuremberg doctors' trial of 1946, where 15 of 23 defendants were found guilty, seven were sentenced to death. Those doctors were involved in the following studies:
 - a. Effect of vacuum chamber and iced water: victims were placed in vacuum chambers and immersed in iced water.
 - b. Treatment of war injuries: wounds deliberately infected and victims set on fire.
 - c. Exposure to chemical weapons: victims exposed to deadly chemicals.

These studies were performed to find out how to protect the German pilots; they were considered the greatest assets in the war. Most of their victims were Jews and Gypsies. These studies led to Nuremberg Code of 1947.

2. Thalidomide tragedy of 1960, where no informed consent was taken during the research study. This study led the FDA to require informed consent when studying experimental drugs.
3. Tuskegee syphilis study was designed to demonstrate the long term effect of untreated cases (though it was well known before), where 200-300 syphilitic black males were recruited for the study, no consent was taken and the patients were deprived of treatment with penicillin, which was the accepted treatment in 1943. This study led to national research act 1974 in USA.
4. Intentional exposure of subjects to radiation; 3000 military personnel were exposed to radiation; 100 prisoners were subjected to non-therapeutic testicular radiation and university subjects were injected with plutonium. This led to the creation of the national bioethics advisory committee in USA.

In the mid sixties and seventies, the ethical consideration extended to animals because of the pressure of animal group lovers, who exposed much of unnecessary animal suffering during research.

No research should be allowed without the approval of the ethical committee within the institution.

No institution, should lack research and ethical committee, otherwise, the abuse would be widespread.

Many papers had been retracted for reasons of either fraud or scientific inaccuracy. Institutes involved were Harvard, Yale and Emory Universities.

World Medical Association Declarations Concerning the Practice of Medicine and Ethical Standard:

1. Declaration of Geneva deals with the duties of physician in general (1948, 1968, 1983, 1994).
2. International Code of Medical Ethics (1949, 1968, 1983).
3. Declaration of Helsinki: Ethical Principles for Medical Research Involving Human

Subjects 1964 to 2002.

4. Declaration of Oslo on Therapeutic Abortion (1970, 1983).
5. Declaration of Tokyo: Guidelines for Medical Doctors Concerning Torture 1975.
6. Declaration of Lisbon on the Rights of the Patient (1981, 1995).
7. Declaration of Venice on Terminal Illness (1983).
8. Declaration of Madrid on Professional Autonomy and Self-Regulation (1987).
9. Declaration of Hong Kong on the Abuse of the Elderly (1989, 1990).
10. Declaration of Hamburg Concerning Support for Medical Doctors Refusing to Participate in or to Condone, the Use of Torture or Other Forms of Cruel, Inhuman or Degrading Treatment (1997).
11. Declaration of Ottawa on the Right of the Child to Health Care (1998).
12. Declaration on Ethical Considerations Regarding Health Databases (2000).
13. Declaration of Washington on Biological Weapons (2002).

Ethical Responsibilities of Authors

Authors/Researchers are expected to have honest behavior in designing, conducting and writing the research.

The following need to be adhered to; otherwise, the researcher would face essential ethical problems:

- A. Obtaining approval of the institution.
- B. Obtaining informed consent.
- C. Proper treatment of laboratory animals.
- D. Protection of confidentiality.

Scientific Dishonesty

When you read what was written by Charles Babbage (1782-1871) you would know that scientific dishonesty is not something new. He defined scientific dishonesty as:

- A. Trimming: is the smoothing of irregularities to make the data look extremely accurate and precise.
- B. Cooking: is retaining only those results that fit the theory and discarding others.
- C. Forging: is inventing some or all of the research data that are reported, and even reporting experiments that were never performed.

David Tracy advice

- A. Write only what you mean and mean what you write.
- B. Provide all evidence (including negative findings) honestly obtained and reason logically from the evidence.
- C. Be aware of and discuss all substantive counterclaims (based on evidence) to your claim (based on evidence).

What is Plagiarism?

Copying a whole paragraph.

Copying one sentence without a reference.

Rewording or rephrasing a paragraph or a sentence without a reference.

There is a web crawler that searches the internet for similar sentences and paragraphs:

www.plagiarism.com. Be careful!

Responsibility of Co-authors

They must be involved in literature search, study design, data gathering, data analysis, the writing of the study and final approval of the version to be published. All previous conditions must be met in order to be called a co-author.

Research misconduct

Errors of judgment

-
-

Inappropriate statistical analysis

Inadequate study design

- Bias
- Self delusion

Misdemeanors

(“trimming and cooking”)

-

Data manipulation

Data exclusion

Suppression of inconvenient facts

Fraud

-
-

Fabrication

Falsification

Plagiarism

Writing Style

Mastering the Language

Being an Arab does not mean that you are a master of Arabic language, being an English does not mean that you are a master of English language. Speaking or studying in a language does not mean mastering that language. Mastering the language is an art, with which some are gifted and the majority have to learn. Remember Cebawuy, the master of Arabic was not an Arab and he had great influence on the Arabic language. In English, there are many other comparable examples, such as Joseph Conrad, English was his third language, yet he wrote masterpieces of English language and he is considered one of the greatest literary writers.

Mathew Parris in his introduction to 'The King's English' - Oxford classics said, "our language is equally the property of all who speak it all over the world, not a possession to be captured and claimed by single race, class or generation."

There are two ways to express yourself in writing:

1. Technical or Objective Language

A statement in objective language tells us about the patient, the procedure or the process. It is informative, impersonal, and not expressive, it could be either the use of impersonal "you" or the use of impersonal passive "it".

In medicine, messages should be conveyed with minimum of words and maximum of clarity. It communicates the truth.

The language used in medicine should be objective rather than subjective.

Example: The procedure consists of abdominal incision and partial gastrectomy.

It is direct statement with no emphasis or emotional overtones.

2. Literary or Subjective Language

It has literary aims; it is emotional; it speaks more about the subject; its aim is to create an impression.

Example: The procedure is major and heroic, consisting of a lengthy abdominal incision and removal of a sizeable part of the stomach; it is painful and could cause a great deal of suffering. Compare this statement with the objective one; though, both are describing the same procedure, but their aim is different. The first plainly describes the procedure and the other one creates an impression.

3. Figurative Language

This is used to make the writer's meaning vividly clear to his own readers. It is rarely used in medicine.

Figurative words or phrases are classified into simile or metaphor.

- a. The patient collapsed as if he was hit by lightning.
A simile denotes is one thing is like another.
- b. A comatosed man is like vegetable.
A metaphor that one thing is another.

Personal Style

Do not try to force somebody's else personal style into yours. Yours is your own identity, your style is knotted to the content of your words and your nature, it is like your finger's prints. Good writing is full of vitality. It is devoid of grammatical errors and keeps the reader alert.

Developing a Good Style comes from three main activities: reading, writing and rewriting. Writing and re-writing makes you develop your own style.

Caricature

The Essential Parts of Speech

Each word in a sentence has a specific role. According to the role it plays, it is a particular part of speech.

There are eight parts of speech: noun, pronoun, adjective, verb, adverb, conjunction, preposition and interjection. Some of these will be described in the following pages.

Noun

A noun is the name of a person, place, thing, idea, quality, feeling or a state of mind - things that exist only in the mind and cannot be seen, heard, touched, tasted or smelled - such as enthusiasm, honesty and anger.

Verb

The verb is an integral part of a sentence; without it a sentence is incomplete.

A verb tells you something is happening. A verb is either a 'doing' or a 'being' verb; it often consists of more than one word (will find, were broken). The verb is either active or passive.

Present Tense

The part of the verb in present, which ends in 'ing'.

Past Tense

The part of the verb in past, which ends in 'ed'. It can also be linked with the present participle.

Example: This file had been missing for some time.

Future Tense

The verb may state that 'doing' or 'being' will take place in the future.

Tense means time.

Verb 'to be'

Is-was

Are -were

Has -have, had (past).

'Be' is the infinitive, 'been' is the past participle.

All forms of be: be, is, was, were, are, am, been, being.

Modals: can, could, may, might, must, shall, should, will, would.

After modals and do, does, did, use a plain verb.

May dance not may dances

might fly

should bring

Do swim

does feel

did hurt

A gerund ends in -ing and functions as a noun, such as cooking, studying and painting.

Present and Past Participles

Present participles, such as moving, running, dancing, flying, and past participles, such as moved, ran, danced, flew, when used as adjectives may precede the noun they modify, or they may follow a linking verb, such as forms of to be (am, are, was, were).

Making the verb 'be' agree with subjects:

1. When be is a main verb, its forms are as follows:

Present Tense

I am cold.

You are cold.

She

He

It

Everyone

The student

is cold.

Past Tense

I was busy.

You were busy.

She

He

It

Everyone

The student

Was busy.

We

You

They

Many

The students

are cold.

We

You

They

Many

The students

were busy.

Some Irregular Verbs You Need to Remember

Present (Bare Form)	Present Participle	Past	Past Participle
arise	arising	arose	arisen
awake	awaking	awoke, awaked	awoke, awaked, awoken
be	being	was/were	been
bear[bring forth]	bearing	bore	born, borne
bear[carry]	bearing	bore	borne
beat	beating	beat	beaten, beat
begin	beginning	began	begun
bid [command]	bidding	bade	bid, bidden
bid[offer to pay]	bidding	bid	bid
bite	biting	bit	bitten
bleed	bleeding	bled	bled
blend	blending	blended, blent	blended, blent
blow	blowing	blew	blown
break	breaking	broke	broken
bring	bringing	brought	brought
buy	buying	bought	bought
catch	catching	caught	caught
choose	choosing	chose	chosen
clothe	clothing	clothed, clad	clothed, clad
come	coming	came	come
cost	costing	cost	cost
creep	creeping	crept	crept
dig	digging	dug	dug
dive	diving	dived, dove	dived
do	doing	did	done
draw	drawing	drew	drawn
drink	drinking	drank	drunk, drunken
drive	driving	drove	driven
eat	eating	ate	eaten
fall	falling	fell	fallen
feel	feeling	felt	felt
fight	fighting	fought	fought
find	finding	found	found
fly	flying	flew	flown
forbid	forbidding	forbade, forbad	forbidden, forbid
forget	forgetting	forgot	forgotten, forgot
freeze	freezing	froze	frozen
get	getting	got	got, gotten
give	giving	gave	given
go	going	went	gone
grow	growing	grew	grown
hang[execute]	hanging	hanged	hanged
hang[suspend]	hanging	hung	hung
have	having	had	had
hear	hearing	heard	heard

hide	hiding	hid	hidden, hid
hit	hitting	hit	hit
hold	holding	held	held
keep	keeping	kept	kept
know	knowing	knew	known
lay	laying	laid	laid
lead	leading	led	led
learn	learning	learned, learnt	learned, learnt
leave	leaving	left	left
let	letting	let	let
lie[recline]	lying	lay	lain
lie[tell a falsehood]	lying	lied	lied
lose	losing	lost	lost
make	making	made	made
pay	paying	paid	paid
prove	proving	proved	proved, proven
ride	riding	rode	ridden
ring	ringing	rang	rung
rise	rising	rose	risen
run	running	ran	run
saw	sawing	sawed	sawed, sawn
see	seeing	saw	seen
seek	seeking	sought	sought
shake	shaking	shook	shaken
shine	shining	shone	shone
show	showing	showed	shown, showed
shrink	shrinking	shrank, shrunk	shrunk, shrunken
sing	singing	sang	sung
sink	sinking	sank, sunk	sunk, sunken
slay	slaying	slew	slain
sleep	sleeping	slept	slept
smell	smelling	smelled, smelt	smelled, smelt
speak	speaking	spoke	spoken
spin	spinning	spun, span	spun
spring	springing	sprang	sprung
steal	stealing	stole	stolen
stride	striding	strode	stridden
strike	striking	struck	struck, stricken
strive	striving	strove	striven
swear	swearing	swore	sworn
sweep	sweeping	swept	swept
swim	swimming	swam	swum
take	taking	took	taken
teach	teaching	taught	taught
tear	tearing	tore	torn
throw	throwing	threw	thrown
tread	treading	trod	trodden, trod
wake	waking	woke, waked	woke, waked, woken
wear	wearing	wore	worn
weave	weaving	wove	woven

wed	wedding	wed, wedded	wed, wedded
weep	weeping	wept	wept
wind	winding	wound	wound
work	working	worked, wrought	worked, wrought
write	writing	wrote	written

Using Do and Does:

Do is used as a main verb and as a helping (auxiliary) verb.

Do as a main verb

As a main verb, do takes the following forms:

	Present	Present Perfect	Past	Past Perfect	Future	Future Perfect
You	do	have done	did	had done	will do	will have done
We						
they						
He	does	has done	did	had done	will do	will have done
She						
It						

Do as a helping verb

Use do as a helping verb in questions and negative statement:

Does knowledge grow in barren land?

Do surgeons fall from the sky?

Knowledge does not grow in barren land.

You could also write doesn't and don't, which are both less formal than does not and do not.

Misusing 'S' With Does

When using does as a helping verb, never add 'S' to the base form of the main verb.

Does smoking cause cancer?

It certainly does not serve the cause of health.

Adjective

Adjectives add information, add detail; describe things, tell us what kind, how many, which one. You can describe size, colour, smell, taste, touch, sound, person, place and idea. It is said that an adjective describes a noun.

Although 'the' and 'a' (or an) do the work of adjectives by qualifying (describing) nouns, 'the' is called the definite article and 'a' (or an) is called the indefinite article.

Adverb

An adverb is a word used to describe a verb, adjective or other adverb to express some modification of the meaning or accompanying circumstance. Adverbs do not necessarily end in 'ly'.

Pronoun

It stands for a noun. It acts for or in place of a noun. A pronoun may be used in asking a question.

Relative Pronoun

It is related to the noun. Linking words with relative pronouns are 'who', 'whose', 'whom', for persons and 'which' for things.

Personal pronoun

	Nominative	Accusative	Genitive
1st person singular	I	me	mine
2nd person singular	you	you	yours
3rd person singular	he/she/it	him/her/it	his/hers/it
1st person plural	we	us	ours
2nd person plural	you	you	yours
3rd person plural	they	them	theirs

Preposition

It is the first word of some of the phrases. It is a word that is placed or positioned before the other words in a phrase.

Interjection

It is a word (or words) used in or added to a sentence to express a feeling such as surprise, sorrow, dismay, pleasure and so on. An interjection plays no part in the grammatical structure of a sentence.

Example: hello or o.k.

The Sentence

The sentence is the basic unit of language. It is the smallest unit of verbal communication that can stand alone; it is a group of words that expresses a complete meaning. It has a subject, object and a verb. The subject performs the action. The verb is the action. It begins with a capital letter and has a mark of ending (full stop, question mark, exclamation mark).

Toni Morrison, novelist said, "I thought of myself as like the jazz musician: someone who practices and practices in order to be able to invent and to make his art look effortless and graceful."

Don De Lillo, novelist said, "Writing is a concentrated form of thinking."

Examples:

Tobacco (subject) causes cancer (verb/predicate).

Cholera is uncommon in Bahrain.

Dr. Hilli operated on the patient.

The subject must contain a word or words naming the subject (the person, place, thing or idea) about which the verb/predicate says something. The subject is always a noun or a pronoun. It may also contain the definite or indefinite article and an adjective (adjectives) qualifying (describing) the subject word. The predicate must contain a verb to state what the subject word does or is. The predicate may also contain an adverb (or adverbs) modifying (describing) the verb. The predicate may contain a direct object or an indirect object and it may contain a complement.

The simple subject is the essential word or group of words. The complete subject is the simple subject plus its modifiers.

Examples: a pale, bleeding demonstrator showed at the emergency department.

[Demonstrator is the simple subject. A pale, bleeding demonstrator is the complete subject.]

The patient is overweight. ("Overweight" is the complement).

Forgetting the verb in a sentence is a common fault in manuscripts submitted by authors whose native language is not English.

Example: Patient not well informed.

In this sentence, both the definite article (the) and the verb (is) are missing. It should say: the patient is not well informed.

Some doctors often use this type of construction in patients' notes.

Example: Patient no symptoms or patient no fever.

A sentence may express a statement, ask a question, issue a command or make an exclamation, as in the following examples:

We examined 30 patients. (statement)

How frequent is this disorder? (Question)

Take the tablets every day. (Command. In this case, the subject, which is the person addressed, is omitted)

What a mess! (Exclamation)

In complex sentences, the order of the words can be different.

Examples:

To be a successful writer what is needed most is perseverance.

The ENT doctor saw a small cut on the patient that was on his left ear.

Better: the ENT doctor saw a small cut on the left ear of the patient.

Use short words

Short words tend to be more powerful and less pretentious than longer words.

Stop is more powerful than discontinue.

Rape is more powerful than sexual assault.

Use familiar words; familiar words have more power.

Familiar	Unfamiliar
Hardened	sclerous
Turning green	virescent
Wording	nomenclature
Making	fabricating
House	dwelling
Happy	blithe
Sad	melancholy
Illness	Malady
Ache	twinge
Poor	Pauper
Read	peruse
Pride	vanity
Hungry	famished
Confused	perplexed
Wise	sage
Blind	sightless
Stupid	obtuse

Foreign Words

Latin or other foreign words commonly used in medicine should be in Roman or Italics. Avoid foreign words as much as possible.

De novo= first time.

En vivo=live.

i.e., e.g =for example.

Vice versa = the other way round.

And etc. Et cetera (etc.) means “ and so forth”; and etc., therefore, is redundant

Anyone, any one

Anyone means “any person at all.” Any one refers to a particular person or thing in a group. Similar definitions apply to everyone, every one, someone, some one.

Example: Anyone with the price of membership can join. Any one of the surgeons might have started the operation.

Use the active voice

Active verbs do something. Inactive are something.

Dr Hilli treated the patient. Dr Hilli is doing the action.

It emphasizes the actual subject and is forceful.

The patient was treated by Dr Hilli.

The patient is the passive receiver of the action of Dr. Hilli.

These sentences contain the same information, but each emphasizes a different point.

The active construction emphasizes Dr. Hilli because he is the subject, while the other emphasis the patient (the subject).

Passive

The patient was bleeding in the emergency room, and three doctors were attending him.

Active

The patient bled in the emergency room, and three doctors attended him.

Passive voice is useful in medicine sometimes

1. To emphasize the action itself

A curved incision was made behind the ear so that the scar could be concealed.

2. To emphasize the receiver of the action or when you do not know the doer of the action: *the patient was stabbed by a sharp knife.*

Effective writing is vigorous and direct. In nearly all circumstances, the active voice achieves vigor and directness better than the passive voice. Consequently, use the active voice except when you do not know the doer of an action or when you want to emphasize the receiver of an action or the action itself.

Verbs should agree with the subjects

Plural subjects require plural verbs

One of the nicest memories I have are those memories/ Is the memory of my medical school. Of course, the second one is correct where the verb agrees with the subject.

Remember that each, every, everybody, someone, somebody, no one, anyone, and anybody are singular and take singular verbs.

When a compound subject is preceded by each or every, the verb should be singular. Although these words refer to more than one, they imply consideration of one at a time. When a compound subject is followed by each, the verb is singular, too.

Use singular or plural verbs with collective nouns depending on how the nouns are used and with nouns ending in-s.

Collective nouns such as army, audience, class, committee, faculty, group, herd, public, and team are singular even though they name groups of individuals. When referring to a group as a single unit, a collective noun takes a singular verb. Example: *the Bahraini public eventually sees the truth. But members of the public see the truth.*

Treat units of measurement like singular collective nouns when they refer to a single unit.

Example: *by mid-lecture one-third of the crowd was gone. Ten Dinars is the cost of a consultation.*

Most nouns that are plural in form but singular in meaning take singular verbs. Nouns such as athletics, civics, economics, mathematics, measles, mumps, news, physics, and species are singular and take singular verbs.

Example: *mumps in adults is dangerous.*

In a sentence that uses 'one of the', examine its meaning to determine if the verb should be singular or plural.

Example: *he is one of the surgeons who are joining the hospital.*

Do not change tenses

Begin with one tense and do not switch to another.

Example: *we were going to operate on the patient. When we were about to start, the nurse says/said, "You can't operate, the patient needs shaving".* The verb in that sentence should be 'said' rather than 'says'.

Avoid splitting infinitive

It is split when an adverb is placed between the word to and a verb.

Example: *she wanted to quickly recover from her illness.*

Better: *She wanted to recover from her illness quickly.*

Avoid shift in pronoun forms

After one has written a research paper, ~~they~~/one should take a break.

If passage makes it clear that the members of group are acting individually, then use a plural pronoun?

Avoid danglers

Example: *two thousand patients were treated in SMC between 1999-2001 with methotrexate. (dangler), better, Methotrexate was given to two thousand patients treated in SMC from 1999 to 2001.* It is easier to understand the sentence that begins with the subject rather than at the end, as in the case of dangler.

Use specific nouns

Example: *A researcher found out that AIDS is a sexually transmissible disease.*

Dr. Hilli found out that AIDS is a sexually transmissible disease.

The second sentence is more powerful by identifying the researcher.

Say thing in positive way

Negative: *Dr. Hilli's plan to breed giant bacteria did not succeed.*

Positive: *Dr. Hilli's plan to breed giant bacteria failed.*

Sentence length

Writing exactly and continuously the same length sentences become monotonous and boring. The readers demand variety for attention. Use short sentences with medium length occasionally. Rarely, use a sentence of considerable length.

Bridge Word

Is used in one paragraph or sentence and then repeated in the following transition.

Unfortunately, like all good antibiotics, Augmentin has been abused. The overzealous salesmen made Augmentin vulnerable.

Avoid Wordiness

This is an excess of words.

Avoiding Specific Source of Wordiness

1. Avoid repeating a word unless you need it again for clarity or emphasis or as bridge.

2. In general, avoid starting sentences with phrases such as “there is and it is”.

There are many patients who suffered from urinary stones. It is this medication that makes patients recover. If you remove all the underlined, they would sound better.

‘There is’, ‘There are’, or ‘There were’ can be used with good effect to open a paragraph “*There are two reasons for his cardiac arrest*”.

3. Wherever possible, turn nouns into verbs.

The resident doctors had an encounter with (encountered) an emergency.

The reason for his decision (He decided) to operate early was to save the patient.

Remove the underlined and incorporate the ones in parenthesis.

4. Wherever possible, get rid of adjective clauses like “who are, which was, and that had been”.

Resident doctors who are in SMC have to operate twice a week.

Remove the underlined and the sentence sounds better.

5. Wherever possible, replace prepositional phrases with single words.

The lecturer spoke in regard to (about) fish poisoning.

We are in need (intelligent) of nurses with intelligence.

Remove the underlined and incorporate the ones in parenthesis.

6. Avoid the verb 'to be' in sentences.

Methotrexate is considered to be the best of all anti-cancerous medications.

Loss of memory may be indicative of (indicate) Alzheimer’s disease.

Remove the underlined and incorporate the ones in parenthesis.

7. When possible, avoid “the fact that”.

Due to the fact that (Because) the patient was quarrelsome, I had to transfer him.

Remove the underlined and incorporate the one in parenthesis.

8. Avoid verbal detours.

When we try to understand what cancer is, our first problem is that none of us understand the mechanism of its evolovement (we do not understand its mechanism).

Remove the underlined and incorporate the ones in parenthesis.

Avoid Cliche’s

Cliché’s are the old phrases.

At this point in time, (W)we cannot get MRI (now).

In rural hospitals CT scanners are few and far between (scarce).

Busy as a bee, the (The industrious) emergency's doctor worked from dawn to sundown.

The chief medical staff's proposal hit the nail on the head (solved the problem.)

We chewed the fat (discussed) until the wee (early) hours of the morning.

Remove the underlined and incorporate the ones in parenthesis.

Using Idioms

An idiom is a combination of words that is peculiar to a specific language but follows no known rule. Avoid these in medical writing.

Euphemisms

A euphemism is a word or expression that takes the sting out of an unpleasant reality. A euphemism for dead is departed; euphemisms for kill include eliminate and harvest.

Words to avoid

Among words to avoid are symptomatology (for symptoms), utilize (for use), visualize (for see), irregardless, prognosticate, tracheotomize, demography instead of characteristics. (demography=branch of anthropology studying the statistics of births, deaths and diseases).

Foreign Words

Latin or other foreign words commonly used in medicine should be in Italics.

Sentence Linking

Sentences are linked with conjunctions. A conjunction is a linking word that joins words or groups of words; it tells more is coming, it tells us to pay attention, sometimes it tells us why something happened or why it did not happen or what will happen.

A compound sentence contains two or more simple sentences of equal value that are connected by a conjunctive adverb or connective phrase. Conjunctions can be used to join one phrase to another.

Connecting Addition

(and, yet, furthermore, moreover, also, besides)

And:

The patient has no urge to urinate and cannot do so effectively.

Yet:

Rectal examination frequently discloses an ampulla full of faeces, yet the patient has no urge to defaecate.

Furthermore:

The patient is depressed; furthermore, he refuses treatment.

Also:

Too rapid correction of acidosis may also result in a rise in PaCO₂.

Besides:

The patient was advised bed rest besides the treatment.

Remember that 'beside' without the 's' means next to; while 'besides' means "in addition" or "except".

Comparative

(than, then)

Than:

These changes are more prevalent in alcoholic liver disease than in cirrhosis of other aetiologies.

Emphasis or Affirmation

(indeed)

Indeed:

The patient was comatose and hypovolaemic due to severe head injury and internal bleeding, indeed he was in a state of shock.

Alternative

(or, on the other hand, at the same time)

Or:

Treatment should be continued for the duration of hospitalization or until the patient becomes ambulatory.

On the other hand:

Juvenile-onset obesity, on the other hand, is more likely to be of the hyperplastic type.

Contrast

(but, yet, still, however, nonetheless)

But:

Liver fibrosis is frequent, but cirrhosis is rare.

Still:

Treatment of obesity is still only moderately effective, but progress has been made in recent years.

However:

Plasticity however, is most prominent in the developing brain.

Result

(consequently, therefore)

Therefore:

Bone marrow aspiration and biopsy are not difficult and should therefore be done early in suspected haematologic diseases.

Time

(after, before, since, until, when, whenever, while)

After:

Since the oesophagus lies directly posterior to the left atrium, this chamber's margin may be more distinct after the patient swallows barium sulphate.

Before:

If diarrhoea is not present the organisms encyst before leaving the gut.

Until:

The management of head and neck neoplasia has been surgical, radiotherapeutic or both until recent times.

When:

Fruits and vegetables may be contaminated when they are fertilized by human manure.

While:

Absent bowel sounds are compatible with ileus or peritonitis, while increased bowel sounds may be heard in the presence of partial bowel obstruction.

Cause or Reason

(as, because, since, whereas)

As:

There may be enlargement of the thyroid as a result of TSH stimulation.

Because:

Pheochromocytomas should be removed before thyroidectomy because of the danger of provoking hypertensive crisis during surgery.

Since:

Anemia may result from any massive haemorrhage since the marrow reserve is limited.

Whereas:

Bacteriocidal antibiotic kills the bacteria, whereas bacteriostatic depends on the host defense mechanism.

Purpose or Result

(that, in order that, so that)

That:

If gas accumulates in the small intestine, it implies that a complication has developed.

So that:

The dosage is gradually reduced so that at the end of four weeks the medication is withdrawn.

Condition

(although, though, provided, if, even though, while, unless)

Although:

An elevated WBC count with a shift to the left is a useful diagnostic aid, although it may be absent in elderly patients.

Though:

Malignant transformations have been described, though these lesions are not precancerous.

If:

Constipation and failure to pass flatus are absolute if the obstruction is complete.

Even though:

New complaints should not be minimized even though history contains vague symptoms.

Unless:

Exercise testing is less valuable unless activity precipitated the syncope.

Place

(where, wherever)

Where:

The trophozoite dwells in the bowel lumen where it feeds on bacteria or tissue.

Conjunctions, participles and relative pronouns produce a smooth flowing effect and link the sentences clearly. Sentences of equal importance can be linked with a semicolon.

Authors should pay attention to the aim and meaning of conjunctions so as not to use them for the wrong purpose. Authors are advised to check the conjunctions used and to ask whether they serve the purpose or not.

Note: When two main clauses are joined by a conjunctive adverb such as nevertheless, consequently, however, or therefore a semicolon must come before the clause containing the conjunctive adverbs and a comma after the conjunction.

Correlative Conjunctions

(not only... but also, neither...nor, either... or, Both... and, Rather...than.) These are called parallel structure for correlative constructions; parallel constructions go together, that is not to mention one and forget the other.

The patient is not only diabetic but also hypertensive.

The consultant does neither radical mastoidectomy nor modified radical.

The patient should either be operated or take the risk of complication.

The patient should take both adequate nutrition and complete rest.

The patient would rather take tablets than have an injection.

Faulty Coordination

A faulty coordination occurs when the conjunction "and" is used to join two clauses that are not equal or which are not related in some way other than addition, such as time, cause, purpose, result or condition.

Example:

"The patient is diabetic and he lives in Manama". You might say that the patient is diabetic and hypertensive.

Parallel ideas should be expressed in the same grammatical form (running and playing, not playing and run).

Example: I like cutting and suturing - not cutting and to suture.

A sentence should have unity. Two short sentences can be linked only if they have a similar information.

Example: a tracheostomy is rarely necessary, and initiation by an untrained person is rarely justified.

Ambiguous Sentence

Ambiguous sentences are those which can have more than one interpretation. It is important to check sentences to make sure they do not have more than one meaning.

Sentences when written should have one interpretation. They should not be meaningless. If a sentence is self-contradictory, it is valueless.

Examples:

"The new hospital junior told the chief of staff that he was late". It looks as if the junior is blaming the chief for being late.

"In tribal times fathers arranged their sons' and daughters' marriages". It looks as if the fathers arrange the marriage between his daughters and sons.

Sentences must be as concise as possible without reducing clarity or sounding discourteously brief. Avoid redundancy (unnecessary repetition of words or groups of words).

Sentence Fragment

A sentence fragment is a group of words that is punctuated as if it is a complete sentence. Sentence fragments are usually serious errors, revealing that the writer does not understand the basic principles of sentence structure; usually it happens with many doctors whose first language is not English.

Example: *patient no fever.*

Suddenly appearing on the horizon.

If doctors practice proper note writing, they would avoid these errors.

Phrases

A phrase is a group of words (two or more) that does not make complete sense on its own. A phrase adds to (enlarges) the meaning of a sentence in which it is included. A phrase may begin with a preposition but many phrases do not. In the sentence in which it is used a phrase does the part of an adjective, an adverb or a noun. Therefore, it may be an adjective phrase, an adverb phrase or a noun phrase. The difference between a sentence and a phrase is that a sentence makes complete sense on its own, but a phrase does not.

Adjective phrases: *Hoping to save the patient, we operated early.*

Adverb phrases: *This week we are expecting more admissions.*

Noun phrases: *My objective is to operate comfortably.*

Use of transitional phrases

Transition of time: *the following week, twenty years later, post-operatively.*

Transition of place: *On the other side of the chest, meanwhile back in the ward.*

Transition of the subject: *consequently, in this manner, on the other hand, in contrast, despite all this.*

Avoid redundant phrases

A redundant phrase says the same thing twice: visible to the eye, large in size, cooperate together, close proximity, basic essentials, true fact. Always revise sentences to eliminate redundancies as the following:

Advance forward	important essential
Disappear from view	revert back
End result	repeat again
Basic fundamentals	consensus of opinion
Circle around	continue to go on
Autobiography of her life	factual truth
Round in shape	combine together

Phrases to avoid

<u>Poor</u>	<u>Better</u>
At the present moment	now
Were of the same opinion	agreed
Be of assistance	help
Red in color	red
Elevated in excess of	above
A large number of	many
A majority of	most
At a rapid rate	rapidly
At some future time	later
Be in favor of	support
Due to the fact	because
A considerable proportion	many
Significantly decreased relative to	less than
It is also probable	probably
In considerable quantities	abundant
On numerous occasions	often
Paediatric age group	children
Place a major emphasis on	stress
In close proximity to	near
Gained 10 pounds in weight	gained 10 pounds
Is by no means a recent discovery	is not new
No pathology was found	no lesion was found
Decreased number of	fewer
Long period of time	long time
During the time that	while
Aetiologic factor	cause
To completely analyze	to analyze completely
Once a month	monthly
Something new	novel
Something impossible to imagine	inconceivable
Six of the patients	six patients
Two equal halves	halves
On a previous occasion	before
Has been engaged in a study of	has studied
At all times	always
At this time in time	now
By means of	by
For the purpose of	for
For the reason that	because
Give consideration to	consider
In order to	to
In the final analysis	finally

Pretentious words and phrases

The ICU utilizes excessive quantities (use too much) of Blood.

Years of research have impacted positively on (improved) our understanding of cancer. Remove the underlined and incorporate the ones in parenthesis.

The Paragraph

It is a group of sentences having one topic. Literary work has long paragraphs. Medical paragraphs are short, objective and clear.

Paragraph Development

Paragraph must begin with a topic sentence expressing the whole theme of the paragraph. A topic sentence should have energy, excitement and occasionally provocative. A topic sentence advances the controlling idea in an essay. The sentences that follow the topic sentence should be in logical order. They should be fully developed with enough information to convey the idea in a reasonably thorough manner and have a unified structure that shows the relationship of supporting information to the topic sentence. The sentences of the body of the paragraph should have coherence, which makes the reader smoothly moves from one sentence to the next. Paragraphs may have a conclusion.

Paragraphs are sometimes brief. Transitional paragraphs, the kind that guide a reader from one part of an essay to another.

Medical Paragraph I

Two of the best known medical publications, the New England Journal and British Medical Journal, began as local journals in Massachusetts, USA and Worcester, UK respectively. Their evolution was probably due to a mixture of robust editorial independence, a desire for wider contacts between doctors, and recognition (not necessarily at a conscious level), that contribution to a general journal must be both scientific and social, and must appeal to a wide audience. The overriding duty to satisfy a variety of readers persists to this day, and is increasingly threatened by specialization and information technology (Alex Paton).

The first sentence is the topic, the following sentence is elaborating on the topic and the last sentence is concluding the paragraph.

Medical Paragraph II

Referred pain

Referred pain is perceived at a distance from the diseased viscus (topic). The area of reference is usually supplied by the same spinal segment and shares central pathways for afferent neurons. All pain from deep structures is referred to more superficial areas, ends in some instances far away from the organ involved. An unusual form of referred pain, “habitual pain” or “habit reference” is influenced by pain from a chronically diseased viscus, previous trauma or a scar from an old operation (conclusion).

The first sentence is the topic, the following sentences are elaborating on the topic and the last sentence is concluding the paragraph.

It is easy for a physician to train himself in the observation of the rules of writing when he is documenting the patients' case notes.

Medical Paragraph III

Voyeurism is sexual arousal by looking at unsuspecting naked females disrobing or engaging in sexual activity (topic sentence). Age at onset usually is early adulthood. Adolescent voyeurism generally is reported leniently; few culprits are arrested. The essential feature is a repetitive seeking out of these situations. Orgasm, usually produced by masturbation, may occur during the voyeuristic activity. The voyeur does not initiate further sexual contact (sentences adding details). The disorder has to be differentiated from normal sexual curiosity occurring between people who know each other (concluding sentence).

Literary Paragraph I

Perhaps no sin so easily besets us as a sense of self satisfied superiority to others. It cannot always be called Pride, that master sin, but more often it is an attitude of mind which leads either to bigotry and prejudice or to such a vaunting conceit in the truth of one's own beliefs and positions, that there is no room for tolerance of ways and thoughts which are not as ours are. (Sir Osler, Prof. of medicine, philosopher, McMaster University).

The first sentence is the topic; the following sentence is elaborating on the topic and concluding the paragraph.

Literary Paragraph II

A fearful man, all in coarse grey, with a great iron on his leg. A man with no hat, and with broken shoes, and with an old rag tied round his head. A man who had been soaked in water, and smothered in mud, and lamed by stones, and cut by flints, and stung by nettles, and torn by briars; who limped, and shivered, and glared and growled; and whose teeth chattered in his head as he seized me by the chin. Great Expectation by Charles Dickens

The difference between medical and literary paragraphs is simple; the first is describing the facts while the other creating impression and conveying opinion.

Medical or Academic Essay

You need to know how to write an essay because your letter to the editor would be in the form of essay.

Medical or academic essay is composed of the following:

Introduction Paragraph

It starts with thesis statement or topic sentence, followed by sentences adding details. Introduction may have a concluding sentence.

Body Paragraphs

It is made of supporting paragraphs, each paragraph supports one sentence in the introduction. Each made of topic, supporting details and concluding sentence.

Concluding paragraph

1. Signal the end. 2. Restate thesis or main idea. 3. Provide a final thought or message.

Before sending your academic essay ask yourself the following:

1. Can you state your objective?
2. Does your introduction state the background of your subject?
3. Can you state the main point of each paragraph?
4. Does each paragraph help develop the objective?
5. Are the paragraphs linked to each other?

6. Does each new paragraph reveal something new?
7. Do you have a concluding paragraph?

Punctuation

Punctuation is similar to traffic signals, which regulate the flow of vehicles on the road. A writer - in medicine or literary - must learn the basic rules of punctuation, otherwise, he would be similar to a blind man walking in the dark.

Ernest Hemingway, novelist said, "My attitude toward punctuation is that it ought to be as conventional as possible."

The Archbishop of York said,
 "If you are getting your commas, semicolon and full stops wrong, it means that you are not getting your thoughts right and your mind is muddled. Shakespeare spelt his name at least four different ways but he always got his punctuation right."

Full Stops (.)

1. A full stop is used to mark the end of a sentence.
2. A full stop is not used after contractions and abbreviations: ACTH, ENT, RBC. No full stops are necessary between initial letters of a group of words, like MRCP, FRCS.

Abbreviations of the pronounceable kind are called acronyms, such as, WHO, World Health Organization. Acronyms never have full stops after them. No full stop after title of study, table, illustration and figures.

Commas (,)

They indicate the logical division of sentences. Single commas are used to separate words or group of words in a series. It is used to mark off introductory matter before the main body of the sentence starts (However or Therefore). Two bracketed commas are used to mark off material of subordinate importance, which could be omitted.

Example: Dr. Ali, the house surgeon, was notified of the investigation needed.

A defining clause is one which defines with the words like who, whose, whom and that; does not have commas around it because it is not sub-ordinate in importance and cannot be left out without loss of meaning.

Which, who

Never use which to refer to people. Use who or that to refer to people and which or that to refer to things.

Example: the patient who had endoscopy left the clinic.

Commas should as a rule be put between adjectives qualifying nouns.

Example: the patient is diabetic, hypertensive, and allergic.

Conversation is introduced by a comma.

Example: the patient said, "I am dying."

After introductory words (Yes, no, though, therefore...)

Between members of a series (Amoxil, zithromax and augmentin were given to the patient).

Element of a sentence that might be misread: *If I make a will, will I ever be able to change it.*

Commas should not be used in attempt to patch up a sentence that needs reconstruction.

Example: *I should like to plead with some of those, who now feel ashamed, to apologize to the medical profession.*

Comma is used to separate long numbers into groups of three beginning from the right.

12,345 222,498 231,547,211

In four digit numbers, the comma is optional.

5,675 or 5676

To test whether you need a comma before 'and', 'but', or 'or', the most frequently used coordinating conjunctions, place a period before it. Then reread each part, before and after the period, without the conjunction. If each part works as a complete sentence, write your sentence using a comma before 'and', 'but', or 'or'. If not, leave out the comma.

Separate the month and day from the year in a date.
September 21, 1999, in the Meeting Room.

If the day precedes the month, do not use commas.
21 September 1999

Semicolon (;)

The semicolon is used to divide off the main parts of a compound sentence when the parts themselves are punctuated by commas. It is placed before a conjunctive adverb, and a comma is usually placed after it.

Example: *for the treatment of allergic rhinitis, perhaps the easiest, and certainly the cheapest, way is by giving antihistamine; but desensitisation is long-lasting, convenient and with less side effects.*

Colon (:)

A colon has several conventional uses. It introduces sentence elements that explain, illustrate, or amplify portions of a sentence. A colon also introduces formal quotations and separates subtitles and titles, subdivisions of time, parts of biblical citations, and city and publisher in bibliographic entries.

Colon is used to introduce a list, quotation or example that has been prepared by some introductory words.

Example: *the conditions may be classified: congenital, traumatic, infective and metabolic.*

Use a colon after the following or as follows to introduce a statement or series.

Example: *the secret to understanding history is as follows: whatever goes around will come around.*

Question Mark (?)

Question mark is used for direct questions not to express wonderment or indirect question.

I was amazed how could he recover?

The question mark above is improperly used because this is not a direct question but wonderment; the sentence should end with a full stop.

Apostrophe (')

a. To indicate missing letters: shan't for shall not or possession (the patient's foot).

b. Possession: his, hers, ours, theirs, its, have no apostrophe. Words ending in 's' and plural words have the apostrophe at the end.

Single: Singer's nodule, Meniere's disease.

Plural: peoples' choice, surgeons' conference.

Quotation Marks (" ")

Shakespeare wrote, "to be or not to be."

They can be either single or double. Modern practice favours the single except for the quotation within the quotation.

Use double quotation marks (" ") to enclose direct quotations from speakers or writers. They are used to indicate the words actually spoken. The words indicating who is speaking appear outside the inverted commas:

Dr. Jaffar said, "..."

Professor Dudley said, "Very soon we will discover a treatment for cancer."

If a quote is within quote use single quotation marks around the inner quote.

Professor Dudley said, "Very soon 'referring to the year 2005' we will discover a treatment for cancer."

Quotation marks are used to indicate slang words or expressions, titles of books, plays, films, etc., the names of newspapers and magazines, and the names of vessels, express trains, etc.

If one speaker or writer is quoted without interruption for more than one paragraph, put quotation marks at the beginning of each paragraph but at the end of only the last paragraph.

Exclamation Mark (!)

Is used for exclamation, noises and shouts. It is rarely used in medical writing.

Dash (-)

a. After multiple subjects. These, those, all, before the predicate.

b. It indicates an addition to the sentence - a surprise or a humorous one.

Example: *Many vocal nodules seen in preachers were in the months of Muharram or Ramadan - these usually disappear afterwards.*

c. It is used when necessary to break off a sentence to put in a piece of additional information between two dashes. It is hardly used in medicine but commonly used in literary work.

Example: *They also had data from a similar study performed in 1992 and 1993 - before the guideline was released - for comparison.*

Hyphen (-)

Short stroke joining two syllables or words

1. Established words consisting of two or more parts, such as a prefix and an already existing word, are spelt without a hyphen.

Example: *postoperative, antenatal, psychoanalytic, neurosurgeon, medicolegal, cardiovascular.*

2. Rule 1 applies also to words in which the conjoined vowels seem to make a diphthong.

Example: *autoimmune, intrauterine, gastrointestinal.*

3. Rule 1 is suspended when the conjoined vowels (a, e, i, o, u) are the same a hyphen is then used.

Example: *co-operative, pre-eclamptic, intra-acinar.*

4. Non-established words made for the occasion by adding a prefix to an existing word have a hyphen.

Example: *ex-surgeon, non-smoker, anti-war.*

5. Hyphen should not connect a noun used adjectivally with another.

Example: *blood pressure, gall bladder, house surgeon, house physician.*

6. Words ending in 'ing' used adjectivally are not hyphenated to their nouns.

Example: *operating theatre, nursing home, waiting room, hearing aid.*

7. Compound adjectives need a hyphen.

Example: *first-rate, Rh-negative.*

8. Complicated phrases used adjectivally need hyphens.

Example: *an up-and-coming professor, a down-at-heel student.*

9. Phrases used as adjectives need hyphens to prevent ambiguity.

Example: *blood-pressure reading, general-practitioner obstetrician.*

10. A hyphen may be needed simply to avoid ambiguity.

The following have a different meaning:

a) *He needed more prolonged treatment.*

b) *He needed more-prolonged treatment.*

c) *Re-creation (something created a new)*

- recreation (a diverting activity).*
 d) Re-sign (to sign again)
 Resign (to give up a position).

11. Eponyms: names of two people are connected by a hyphen.
 Example: *Paul-Bunell*.
12. Compound points of the compass applied to areas, regions, and organisations are hyphenated.
 Example: *north-west, south-east*.

Use a hyphen to indicate that word is broken at the end of a typed or handwritten line.

Use a hyphen to form certain compound words.

Cross-reference	clear-cut
Mother-in-law	half-moon
Deep-fry	bull's-eye
Jack-o-lantern	great-grandfather

Use a hyphen to spell out the compound numbers twenty-one to ninety nine and fractions.

Seventy-five ninety-nine one-half three-fourths

Use a hyphen between words and the prefixes self-, all-, and ex- (meaning formerly) as well as the suffix-elect.

Self-control ex-student president-elect all-encompassing

Use a hyphen to join single letters to words.

Z-transfer U-turn T-shirt F-sharp

Use a hyphen to avoid confusion.

Square Brackets [...]

They are used in quotations to mark an addition or correction by a subsequent author or editor: "*I have heard him [Dr. Hilli] say this before.*"

Brackets, Parenthesis ()

They are used when very strong insulation from the rest of the sentence is needed. It means additional information, which breaks the sentence and then the sentence continues. Avoid them as much as possible.

Example: *The patient is suffering from liver cirrhosis (alcoholic) and gal-stones.*

Mark Twain wrote, "A parenthesis is an evidence that the man who uses it does not know how to write English." Many would disagree with this statement because many great writers like Jan Austin, Charles Dickens and John Conrad have used the parenthesis.

Numbers

When to use as figure or spell out.

1. A number should be spelled out when it begins a sentence.

Seventy-five complications were encountered after introducing the new procedure.

2. Spell out a number that can be written in one or two words.

A hyphenated number may be counted as one word.

3. Use numeral if spell out require more than two words.

The survey covered 10600 healthy individuals.

4. Use numeral for addresses, dates, exact times of day, exact sums of money, and exact measurements such as miles per hour, scores of games, mathematical ratios, fractions, and page numbers.

22 East main street

October 7, 2001

44 B.C.

11:15 am.

\$ 4.36

65 mph

a ratio of 2 to 1

5 7/8

5. When a time of a day or a money is given as a round figure, spell it out.

Dr Jaffar always operates at ten.

I drilled the antrum at around eleven o'clock.

6. Be consistent. If there are several numbers, some composed of one or two words and others of more than two words, use numerals for all of them. Also, if numbers are used frequently in a discussion, use numerals for all of them.

Percentage

In formal writing percent should always be written in word, not % .

Ellipsis (...)

Three full points are used to mark an omission in a quotation. Ellipsis is rarely used in medicine and should not be used in fictional work except if necessary.

Punctuation Checkers

Grammar checkers are highly unreliable in flagging punctuation errors. Grammar checkers generally fail to flag comma errors except before which and that. They tend to flag all semicolon use, but they generally fail to identify run-on sentences. They also tend to flag all colon and dash use, but you still need to determine whether their use is correct or not. They can be effective in identifying missing apostrophes in contractions, and they sometimes flag missing apostrophes in possessives, but not always. They are very effective in flagging mistakes in the use of commas and periods with quotation marks. Know your punctuation well; you cannot depend entirely on the punctuation checker of your computer.

Definite Article: the

'The' should be used with count nouns singular; it should not be used with plural except with count nouns specifically identified: the operations I performed last year.

Nouns: a word that names a person., place, or thing, or idea. Proper nouns name particular people, places, or things: Fayek Hilli, Riyadh, Hyde Park.

Most nouns refer to things that can be counted, such as one horse, three cars, five dollars.

Because it is used only with nouns specially identified 'the' should not be used with plural or noun when the meaning conveyed is generally or all.

Generally, do not use 'the' with proper nouns. Proper nouns name people, places, and things: Jaffar Al Bareeq, Bahrain, Manama.

There are exceptions. Some plural proper nouns naming places, such as the Pyrenees, the Sierra Nevada, the Alps, the Great Lakes, take the definite article. Furthermore, few countries have an official name that may take 'the' and a shorter, more commonly used name that does not take the: The United States of America, The Hashemite Kingdom of Jordan.

The definite article is not used with non-count nouns (sugar, coffee, water, cement, luck, air, knowledge and justice.)

Common nouns names general classes: athletes, singers, hotels.

Abstract nouns name intangible qualities: loyalty, grace and devotion.

Concrete nouns name tangible thing: desk, snow and glasses.

Collective nouns name groups: team, squad and committee.

Indefinite Articles: a, an

Use the indefinite article 'a' or 'an' for singular count nouns not specifically identified.

Use 'a' before consonants and 'an' before vowels (A, E, I, O, U)

A word beginning with the letter 'h' may have either an initial consonant sound if it is aspirated (hole) or an initial vowel sound if it is not aspirated (heiress) - a hand, an hour.

Do not use 'a' and 'an' with plural nouns.

Generally, do not use 'a' and 'an' with non-count nouns (sugar, coffee, water, cement, luck, air, knowledge and justice.)

Generally use an article when you show a particular amount of a non-count noun by placing a count noun first and using of.

A bag of rice

A pile of sand

Computer Grammar-Checking

Too often they fail to identify errors, and too often the errors they identify are actually correct.

Grammar checkers do not flag errors in parallel structure because computers cannot assess whether ideas are parallel in meaning or not. Cannot identify most missing verbs and articles.

Cannot flag errors in modifiers (such as dangling modifiers).

Cannot flag shifts in verb tense, mood, or voice.

Grammar checkers tend to flag most sentence fragments and run-on sentences but not all of them. Sometimes they flag correct sentences as incorrect.

Spelling

Improve your spelling

1. Make visual image for the correct spelling.
2. Look up any word in the dictionary if you are not sure of.
3. Read in your own specialty and literary work. Read newspapers like the Guardian or The Independent or The Times or similar ones.
4. Practice writing, weekly write one paragraph about each of your in-patients and select one for an essay.
5. Compile a personal list of spelling demons, the words you frequently misspell. Beside the words, write out the correct spelling.

Spell Checkers

A spell checker is a valuable software asset, but it will not solve all your spelling problems. For example, a spell checker will not flag commonly confused words such as illusion and allusion or accept and except, their, there, they're, who's, whose, it's, and won, one.. It will not flag words that sound alike but have different meanings and spellings, such as all together and altogether or there and their. It will not show you how to spell words not in its dictionary, but it will flag them so you can check the spelling in your dictionary. Nevertheless, a spell checker is useful because it will flag most typos and most misspellings, allows you to correct the errors on the screen, and integrate the changes throughout the text with one click of the mouse. If you have no medical dictionary installed, your spell checker will flag nearly all your medical terminologies.

A. Spelling Errors

Spelling errors in familiar words fall into three principal categories.

1. Errors of Memory

These are widely committed even by the well educated. Typical uncertainties are: whether a word has single or double consonants (embarrassment, guarantee, occasion); whether 'ie' or 'ei' is required; whether a plural is 'ies' or 'ys'; whether an ending is 'ible' or 'able'.

A little hard work at memorisation can settle most of these doubts forever. Some of these points are the subject of rules, which follow below. For the others, it is a matter of learning by heart the words you misspell. If you have a 'blind spot' over a word, you should memorise the spelling when you look it up in the dictionary. Otherwise you will find yourself looking up the same word week after week.

2. Errors of Misunderstanding

These occur when there are two or more spellings (with differing meanings) for words that sound alike (their, there, they're).

3. Low-literacy Errors

These are errors in simple everyday words where there is no element of confusion as in the first two categories. Bad spellers of this kind often spell the same word various ways in the same piece of writing. Sometimes the misspelling reveals a speech fault 'as' for 'has' and vice versa.

Misspelling of this category is usually the result of lack of reading and can be put right only by a long-term policy of extensive reading. Unfortunately, this kind of bad speller probably reads so little because he or she finds reading difficult; so a very determined effort indeed is required of such a physician if he or she is to reach a tolerable spelling level. Regrettably, various studies showed that physicians and people in the Arab world are not keen readers – something which needs to be attended to.

B. Spelling Rules

Vowels: A, E, I, O, U: Are speech sounds produced by the unimpeded passage of the breath through the mouth. Consonants: Any speech sound other than a vowel.

Rule 1.

'i' before 'e' except after 'c' (where the sound is as in piece).

Exceptions: counterfeit, weir, weird.

Rule 2.

In compounds the 'll' of all, full, fill, till, well becomes 'l '. Thus almighty, fulfil, handful, until, welfare. Exceptions: farewell, illness, tallness, smallness, well-being.

Rule 3.

One-syllable words ending in a vowel and a single consonant double the consonant when 'ed', 'ing' or 'er' is added.

One-syllable words ending in a vowel, a single consonant, and silent 'e' do not double the consonant when 'ed', 'ing' or 'er' is added.

Thus plan, planning, but plane, planing, fin, finned, but fine, fined. Words of more than one syllable behave similarly except when there is no stress on the final syllable (profit, profiting). Exception: worship, worshipping.

Rule 4.

In compounds, silent 'e' is retained before a consonant, dropped before a vowel. Thus lively but living, valueless but valuable. Exceptions: argument, awful, duly, truly, unduly, wholly, wisdom, and alternative forms abridgment, ageing, judgment, rateable, saleable, acknowledgment.

Note: Before 'a' 'o' or 'u' the 'e' is retained after 'g' or 'c' to indicate that the 'g' or 'c' is 'soft' in pronunciation. Thus managing but manageable.

Rule 5.

Nouns ending in 'y' form their plurals by adding 'ies' except where the 'y' is preceded by a vowel. Thus penny/pennies but chimney/chimneys.

Exception: The alternative plural of money: monies.

A. Words which can be spelled in two ways

abridgement	abridgment
acknowledgement	acknowledgment
ageing	aging
by-law	bye-law
carcass	carcase
connexion	connection
enquire	inquire
grey	gray
instill	instil
judgement	judgment

B. Medical words commonly misspelled

aberration	abeyance	abscess
abscissa	accuracy	accessory
aerophagy	amoeboid	adolescent
aggressiveness	anaemia	amenorrhoea
anaphylaxis	arrhythmia	anaesthetist
haemorrhagic	maxillary	chiasma
autoagglutinin	bougie	caesarean
calculus	catarrh	foetus
cirrhosis	coccus	commissure
compression	gonorrhoea	corpuscle
consciousness	convalescence	decussation
derangement	diffusion	diploe
disseminated sclerosis	duodenal	dysmenorrhoea
ecchymosis	envelope	euphoric
exhaustion	fissure	haemapoiesis
haemorrhoid	herniorrhaphy	influenza
irrigate	koilonychia	malleolus
megaloglossia	micturition	miscarriage
myxoedema	nystagmus	hypoglossus
obsession	rhinorrhoea	occlusion
otorrhoea	paraffin	physique
pneumonia	poikilothermic	programme
raphe	recess	regression
scanning	schizophrenia	seborrhoea
suggestion	tenesmus	immunosuppression
vicious	viscera	yttrium

C. Non-medical words commonly misspelled

abbreviate	accelerate	accomplishment
acknowledge	adhesive	adjacent
aggravate	analysis	ancestor
anonymous	anticipate	apparent
approach	appropriate	appendicitis
aqueduct	artificial	atmosphere
atrocious	attitude	average
barometer	bronchitis	bulletin
caustic	catastrophe	committee
conference	comprehension	congenial
conscious	conscientious	deciduous
deficit	definitely	descendant
diameter	development	discipline
dissimilar	disagreeable	doubtful
emergency	effervescent	eradicate
forehead	forfeit	frequency
fulfil	hemisphere	honorary
honourable	illiterate	immediately
irregular	irritable	maintenance
microscope	misapprehension	nauseating
mortality	miscellaneous	nutritious
occasion	opposite	paraffin
parallel	participate	peculiar
penetrate	perceptible	perennial
precarious	precocious	preference
premature	preliminary	procedure
profession	prescription	provisional
psychology	prohibitive	recoup
reciprocate	questionnaire	recuperate
recurrence	registrar	rehearsal
relief	regrettable	remittance
repetition	representative	residential
resonant	respiration	resumption
retrieve	retrospective	revelation
rheumatism	rhythm	routine
rumour	saturate	sceptical
schedule	scissors	sensitive
separate	simultaneous	specimen
spontaneous	successful	sufficiency
superficial	susceptible	suspension
symptom	symmetrical	syringe
temporary	temperature	tenacious
translucent	transparent	tunnel
turpentine	twelfth	usually
vaccinate	vegetarian	vehicle
ventilation	veterinary	viaduct

D. Words with similar pronunciation

always	all ways	
licence (noun)	license (verb)	
anyone	any one	
mask	masque	
awhile	a while	
meter	metre	
assent	ascent	
mews	muse	
born	borne	bourne(e)
more	moor	
boy	buoy	
naught	nought	
broach	brooch	
passed	past	
by	bye	
plane	plain	
canvas	canvass	
Practice	practise	
check	cheque	
precedent	president	
complacent	complaisant	
principal	principle	
sew	sow	
compliment	complement	
sheer	shear	
stationary	stationery	
council	counsel	
stayed	staid	
cruise	cruse	
sty	stye	
cubicle	cubical	
their	there	
die	dye	
throes	throws	
draft	draught	
to	too	
everyday	every day	
trait	tray	
feint	faint	
treaties	treatise	
flair	flare	
whose	who's	
forebear	forebear	
wrapped	rapt	
hoard	horde	
its	it's	

E. Words with similar appearance

adherence	adhesion	
affect	effect	
alternate	alternative	
amend	emend	
artist	artiste	
barbarism	barbarity	
bereaved	bereft	
beside	besides	
biannual	biennial	
coherence	cohesion	
compliment	complement	
consist of	consist in	
definite	definitive	
disinterested	uninterested	
distinct	distinctive	
economic	economical	
ensure	insure	assure
exhausting	exhaustive	
farther,	further	
forward	foreword	
historic	historical	
imperial	imperious	
impracticable	impractical	
lightening	lightning	
luxurious	luxuriant	
permissible	permissive	
physical	psychical	
precede	proceed	
prescribe	proscribe	
resort	recourse	resource
reverend	reverent	
sceptic	septic	
stimulus	stimulant	
summon	summons	
transport	transportation	
vicious	viscous	viscose

F. English and American spelling

The difference in some commonly used words.

English	American
aetiology	etiology
amoeba	ameba
amenorrhoea	amenorrhea
anaemia	anemia
anaesthesia	anesthesia
artefact	artifact
arrhythmia	arhythmia
caecum	cecum
coeliac	celiac
colour	color
catalogue	catalog
centre	center
diarrhoea	diarrhea
dyspnoea	dyspnea
enquire	inquire
fibre	fiber
foetus	fetus
glycaemia	glycemia
gramme	gram
haemolysis	hemolysis
haemorrhoid	hemorrhoid
haemorrhage	hemorrhage
haematuria	hematuria
ischaemia	ischemia
leukaemia	leukemia
leucocyte	leukocyte
litre	liter
mucocoele	mucocoele
myxaedema	myxedema
oedema	edema
oesophagus	esophagus
orthopaedics	orthopedics
otorrhoea	otorrhea
paraesthesia	paresthesia
paediatrics	pediatrics
programme	program
rhinorrhoea	rhinorrhea
seborrhoea	seborrhea
sulphonamide	sulfonamide
sulphur	sulfur
toxaemia	toxemia
tumour	tumor

As a general rule the 'ae' is replaced with 'e', the 'oe' is replaced with 'e' and the 'oea' is replaced with 'ea',

G. Commonly confused words

Many Spelling errors come from confusion over the meaning and correct spelling of commonly used words. Learn the spelling and the meaning of the following commonly confused words.

Accept	to receive
Except	to exclude
Advice	counsel (noun)
Advise	to give advice (verb)
Affect	to influence (verb)
Effect	a result (noun); to accomplish (verb)
All ready	prepared
Already	previously
Brake	to stop
Break	to smash
Buy	to purchase
By	near
Capital	accumulated wealth; city serving as government seat
Capitol	building in which legislative body meets (Lowercase for state, uppercase for federal)
Choose	to select
Chose	past tense of choose
Cite	to quote
Sight	ability to see
Site	a place
Complement	something that completes
Compliment	flattering remark
Conscience	moral sense (noun)
Conscious	aware (adjective)
Coarse	rough (adjective)
Course	path, procedure, process (noun)
Decent	moral (adjective)
Descent	a way down (noun)
Dissent	to disagree (verb); difference of opinion (noun)
Desert	to abandon (verb); barren land noun)
Dessert	last course of a meal
Formally	in a formal manner
Formerly	previously
Forth	forward
Fourth	after third
Hear	to perceive by ear (verb)
Here	in this place
Heard	past tense of hear
Herd	group of animals
Instance	an example
Instants	moments
Its	possessive of it
It's	contraction of it is
Lead	to show the way (verb); a metal (noun)

Led	past tense of lead
Lessen	to make less
Lesson	something learned
Loose	to free from restraint (verb); not fastened (adjective)
Lose	to misplace; to be deprived of (verb)
Passed	past tense of pass
Past	no longer current (adjective); an earlier time (noun); beyond in time or place (preposition)
Peace	absence of strife
Piece	a part of something
Plain	clear (adjective); level land (noun)
Plane	airplane; carpenter's tool
Principal	most important (adjective); leader (noun)
Principle	basic truth or law (noun)
Right	correct (adjective)
Rite	ceremony (noun)
Write	to record (verb)
Road	a driving surface
Rode	past tense of ride
Stationary	unmoving
Stationery	writing paper
Their	possessive of they
There	in that place
They're	contraction of they are
To	toward
Too	also; excess amount
Two	the number following one
Weak	not strong
Week	Sunday through Saturday
Weather	condition of climate
Whether	if, either
Who's	contraction of who is
Whose	possessive of who
Your	possessive of you
You're	contraction of you are

H. Confusing words commonly used in medicine

Criteria, data, phenomena: Criteria is plural form of criterion. Careful writers use criteria only in the plural sense. Example: the criteria were so ill-phrased that they were hard to apply. Data and phenomena are plurals of datum and phenomenon, respectively. They should be treated as plural forms. Examples: new data suggest the drug is harmful. Today's unexplainable phenomena are tomorrow's scientific explanations.

Farther, further: Farther refers to actual distance. Further refers to additional time, amount, or other abstract matters.

I cannot walk any farther. Further encouragement is useless.

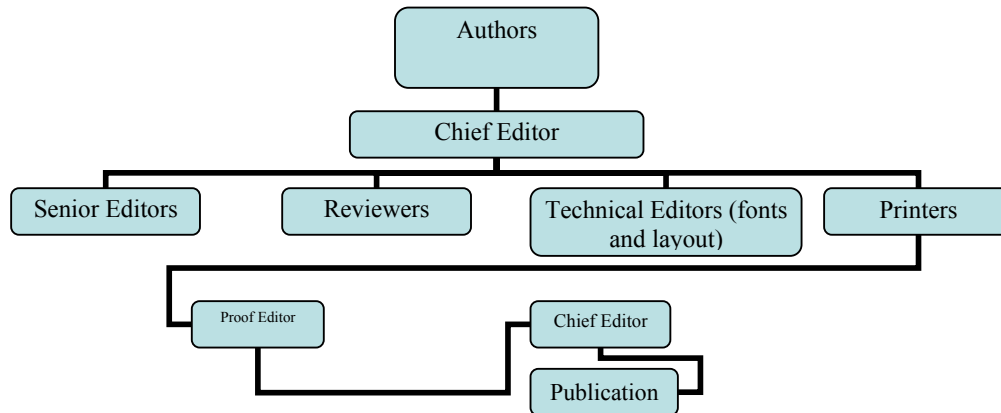
Lie, lay: These verbs are often confused. Lie means “recline,” and lay means “place.” In part, they seem to be confusing because the past tense of lie is the same as the present tense of lay.

Lie (recline)	lay (place)
Lie	lay
Lay	laid
Lain	laid
Lying	laying

Use of Dictionaries

A dictionary shows how words are spelled, their pronunciation, grammatical function or functions and origins. A good dictionary tells a great deal more about any word that you look up than just its spelling including its meaning or meanings and often gives several synonyms for each area of meaning. It is impossible for very small dictionaries to give all the information you need about the words they do list; they have to leave a great many words out altogether. You should therefore buy the largest dictionary you can afford. You should recognize that some dictionaries do differ in certain words by following English or American spelling but most reputable dictionaries include both spellings. I strongly recommend Chambers Dictionary to be used for a general purpose, supplemented by a medical dictionary.

Editorial Team



Manuscripts in Bahrain medical bulletin passes through rigorous process. As you can see many hands exchange the paper under review before it is published. In that way errors can be minimized, but it cannot be totally eliminated, which proves that we are humans.

Manuscript Conformation

Manuscript should have the following:

1. It should conform to the uniform requirements of biomedical journals.
2. It should be accompanied by financial statement if needed.
3. There should be a signed statement of approval of all authors.
4. On the first page, the followings are mandatory: name, address and telephone number of the corresponding author.

Before submitting the manuscript, consider the suitability of the journal, is it clinical or basic research.

Important points to remember when reviewing a paper

1. The title and number of authors are appropriate. It is unreasonable to submit a case presentation with ten to fifteen authors.
2. Is the manuscript submitted conforms to the style of the journal.
3. The abstract contains objective, methods, design, setting, results, and clear conclusion.
4. The introduction, methods, result and discussion should follow what has been described before.

Guidelines for Reviewers According to Council of Biology Editors

- I. Protect the unpublished manuscript.
2. Provide unbiased review even if you recognize the author.
3. A review should not take more than 2 to 3 weeks.

4. Discussion of the paper should be with the editor only, never with the author.
5. Final acceptability of the paper should be left for the chief editor.
6. Do not attempt to change style, unless it is necessary, correction of grammar mistakes is appreciated. Abrasive comments are not appreciated by the editor or the author.

Reviewer Honor

Reviewers are honored when selected. The selection is based on the following:

- A. They are selected from the best and famous or research fellows.
- B. They are supposed to be objective, non-biased and do not pass the manuscript to his juniors and claim the review for himself.
- C. Reviewing for a journal can be cited in the CV'S of the reviewer.

Who Is an Author?

Vancouver Group positive author is based only on substantial contribution:

- (1) Participation in conception and design or analysis and interpretation of data.
- (2) Drafting the article or revising it critically for important intellectual content.
- (3) Final approval of the version to be published.

Conditions 1, 2 and 3 must all be met. Participation solely in the acquisition of funding or the collection of data does not justify authorship. General supervision of the research group is not sufficient for authorship.

BMJ author/contributorship

Byline: A,B, C ,D ,E, F, G, H

Contributors: A carried out the trial, helped in data analysis, and wrote the paper. B was involved in design, implementation, and data analysis, and contributed to the writing of the paper. C was involved in execution of the trial, data management and analysis. D was involved in trial execution and data entry, management analysis, and quality assurance. E was involved in trial execution and data management with emphasis on analysis. F and G were involved in the design and contributed to the writing of the paper. H was involved in the design, implementation, analysis, and biochemical interpretation, and contributed to the writing of the paper.

[Guarantors: A and H]

Acknowledgment according to Vancouver

- (1) Contribution that needs acknowledging but do not justify authorship, such as general support by a departmental chair;
- (2) Acknowledgments of technical help;
- (3) Acknowledgments of financial and material support, which should specify the nature of the support; and
- (4) Relationships that may pose a conflict of interest.

Persons who have contributed intellectually, for example, “scientific adviser”, “critical review of study proposal”, “data collection”, or “participation in clinical trial”; such persons must have given their permission to be named.

Editors' Responsibility?

1. Editors are the overseers of scientific honesty and responsible for maintaining high standard in research and publication.
2. Editors are responsible to check whether the manuscript is published before or not prior to processing.
3. Editor has the right to reject the paper on ethical grounds.
4. Editors may ban another manuscript from the author for a period of 3-5 years.
5. Editors may report research or publication misconduct to the offender's institution.

In UK, the General Medical Council (GMC) might erase researchers from registration for misconduct. In Bahrain, we do not have GMC and we do not have proper authoritative body, responsible for research and ethics.

Electronic Journals

Many people thought that electronic journals might wipe out the printed journals. If we look at the development of video against the cinema, the latter did not disappear but the number had increased; TV against radio, the latter did not disappear but the number of the stations have increased; that and others prove that electronic journals will not make the print disappear but will augment it.

Avoidance of Research and Publication Misconduct

1. Approval of ethical committee, no research should be conducted without approval.
2. Supervision, every research should be supervised.
3. Raw data should be kept for 15 years, in case it is needed.

Editors Working with Authors

1. Use reviewers' comments to educate the author.
2. Respond to appeals by authors after rejection.
4. If an author cannot write well, one wonders how they got to their present position in the first place.
5. Rejection should not deter keen author.

International Corporation of Research Editing and design (ICRED), P O
Box 30880.

This is the first corporation of its kind in the Gulf region

The objectives of this company

1. The corporation performs research in all fields of medicine including medico-legal cases. It provides research studies for doctors involved in medico-legal cases.
2. It provides research service for science researchers and writers.
3. Works with researcher to develop specific aim for his research study.
4. Helps researcher in design and methods of the study, and how the research will be conducted.
5. Edits research at all stages. Helps the researcher to prepare preliminary results or progress report.
6. Publishes research studies in medical/science journals and books.
7. Helps the researchers through grant applications and approval. Arrange funding of research through local or international resources.
8. Helps the researcher to prepare budget and justification for all the expenses required to achieve the project aim and objectives
9. Helps researcher to describe the resources, facilities, and support available.
10. Helps in the formation of National Commission for the Protection of Human Subjects and vertebrate animals in Biomedical and Behavioral Research.
11. Helps researcher to adhere and abide by ethical principles and guidelines for the protection of human subjects in research.

Scientific research has produced substantial health benefits. It has also produced some troubling ethical problems. The public is concerned about the abuses of human subjects and animals in biomedical research. To avoid such abuses we will work closely with the researcher to adhere to the basic principles of ethics in research, which are specified in the corporation manual.

Doctors need to publish to promote the science of medicine and for their promotions, and as it is said "Publish or Perish"

Useful Symbols

Is Equal to =

Is not equal to \neq

Is greater than >

Is much greater than \gg

Is less than <

Is much less than \ll Is greater than or equal to \geq Is less than or equal to \leq Reduce space between lines or paragraphs \diamond or \Downarrow

Mass kilogram kg.

Seconds s.

Frequency Hz

Insert space between words affected Y

Reduce space between words affected <

Insert space between lines or paragraphs ϕ or π Plus or minus \pm

Plus +

Minus -

Multiply by x

Divide \div Is identically equal to \equiv Is approximately equal to \approx

Proof Correction Marks

The following are some marks used in proof correction, they are chosen because of their non-ambiguity and for saving time. For those interested there are many others, but you must make sure that marks to be used for proof correction are acceptable to editors and publishers. Use red on the first proof, but on subsequent proofs and art work use pencil only.

Textual Mark

Leave under characters unchanged

.....
streptococcus

Encircle word (s) of doubtful accuracy

concet

Insert the matter indicated in the margin.

Large insertions, on a separate sheet, to be indicated by a letter in a diamond

Encircle character (s) to be replaced by correct font

sin

Under character r(s) to be set or changed to italic.

coccus

Under character (s) to be set or changed to capital letters.

Dignity

Textual Mark

Under character (s) to be set or changed to small capital letters.

Democracy

Under character (s) to be set or changed to bold type.

election

Encircle character (s) to be changed to lower-case letters

Tolerance

Encircle character (s) to be changed from italic to upright type

pride

Substitute or insert full stop or

Marginal Mark

Marginal Mark

decimal point where required

Substitute or insert colon where required

Substitute or insert semicolon where required

Substitute or insert comma where required

Substitute or insert apostrophe where required

Substitute or insert quotation marks
where required

Substitute or insert hyphen where required

Substitute or insert oblique where required

Start new paragraph

Run on (no new paragraph)

Centre enclosing matter
[wisdom]

Correct vertical alignment

Correct horizontal alignment in
the line above and line below

Delete space between characters or words

Insert space between characters

Insert space between words affected

Reduce space between words affected

Insert space between lines or paragraphs

Reduce space between lines or paragraphs

Bahrain Medical Bulletin- Check List for Referees

Title:..... Manuscript No.

Please complete and sign the check list after reading the enclosed manuscript and type or write your comments (if any) on the attached comments form.

	Yes	No	N/A	Comments
Appropriate Study Design				
Title- is it appropriate?				
Abstract				
Structured Format				
Is it within 250 words?				
<i>Introduction</i>				
Coverage of the problem				
Is the aim clear?				
Appropriate length (A4)				
Citing of 3-4 references				
<i>Material and Methods</i>				
Adequately described				
<i>Results</i>				
Relevant				
Credible				
Well presented				
No. of tables appropriate				
No. of figures appropriate				
<i>Discussion</i>				
Reasonable interpretation				
Warranted by data				
Reasonable speculation				
Compare and contrast with other studies				
Citing of previous publications				
<i>Conclusion</i>				
Is the message clear?				
Is it valid?				
Is it related to the study?				
<i>References</i>				
Conformity to Vancouver style				
Up-to-data within the last 5 years				
Relevant to the study				
<i>Overall Recommendation</i>				
Scientific reliability				
Clinical importance				
Satisfactory overall design				
Conformity to style of BMB				
English and writing style				
Statistical assessment				
Informed Consent taken				
Ethical aspect				

Priority Publication High Acceptable without modification
 Average Acceptable with modification
 Low Not acceptable

You may use the back of the page for more comments

Date-----

Name and Signature of Reviewer

Each paper is subjected to review by three independent reviewers. As you can see from the previous check list, almost everything in the paper is considered before accepting or rejecting it. Papers with few minor errors are sent back for modification. Outright rejection is resorted to when the paper contains major scientific or ethical problem.

Proof Reading Your Text

It is reading what the printer submits for the author's final corrections before publication. Reread every word carefully, watching particularly for errors in grammar, spelling, and punctuation. It would be better, if you record reading loud your text on a cassette and listen to yourself after one day and you will discover few more mistakes. Compare the printer sheet with your original manuscript.

Writing Golden Rules

1. Think clearly. Use definite, specific, concrete language. Keep related words together. Use orthodox spelling.
2. Put your arguments forward logically and effectively and detect the fallacy.
3. Resist dishonest or illogical attempts to influence you.
4. Keep your writing short and avoid superfluous words and repetition.
Example: *The new operation is an excellent method in itself and is quite effective.*
Better: *The new operation is effective.*
5. Ask each sentence "Are you necessary?"
6. Make sure that compound sentences link parallel ideas.
7. Avoid the overuse of 'that'.
Example: *He modified that procedure, so that he could make that method more effective.*
Better: *He modified the procedure to make it more effective.*
8. Reduce clauses to phrases, single words, or appositives.
Example: *Since we are operating on that patient who is terminal, we are able to predict the outcome.*
Better: *The outcome of operating on the terminal patient is predictable.*
9. Reduce compound sentences by combining two subjects and/or two predicates into one compound subject and/or compound predicate.
Example: *The consultant examined the patient and the junior staff examined him also.* Better: *The consultant and the junior staff examined the patient.*
10. Know the entire text. Make sure the person you are quoting would accept your use of his words.
11. Use abbreviations only if standard. Try to eliminate e.g. and i.e.
12. Avoid being redundant
Very severe, very unique, very rare, little kitten...
13. Read aloud to yourself what you have written. Listen for dissonance. Listen for the beat. Listen for sour notes. Is this word little sharp, is that one bit flat. Is the word flowing as it should be?
14. Avoid foreign words if possible (via, per se).
15. Use anecdotes if needed
An anecdote is a little story or incident that makes a point about your research.
Anekdotia is Greek means things unpublished

16. Avoid unfamiliar words and jargon such as symptomology (for symptoms), utilise (for use), visualise (for see), irregardless, prognosticate and tracheotomise.

17. Do not explain when you do not have to.

Example: *The specimen was put in special medium, and then taken by the junior medical staff in special container from the theatre to histopathology laboratory. With utmost care observed during the transportation time.*

Better: *The specimen was sent to the laboratory with special precautions.*

18. Be honest, do not mislead or lie.

19. Do show compassion to your patients or the animals under the study. Observe strict confidentiality and informed consent.

20. Present the facts nothing more or less.

21. Prove what you set yourself to prove.

22. Review, reconsider and survey what you have written, then shelf it for one month and review it again (Steven Lock). You will discover many faults, which you otherwise would not.

When you have finished, ask yourself

- Is the paper clear?
- Are more details needed?
- Are there sweeping statements that need to be supported by references?
- Is there needless repetition?
- Are any of the words or paragraphs vague?
- Are there grammatical errors?
- Are there punctuation errors?

Scientists ranked the criteria of a good quality research paper as follows: logical rigour, replicability of research techniques, clarity and consciousness of writing style, originality, mathematical procedure, coverage of significant published work, compatibility with generally accepted disciplinary ethics, theoretical significance, pertinence to current research in the discipline, and applicability to practical or applied problems in the field.

My final advice to the editors is to be patient with authors whose native language is not English and try to help them. Many of these authors' papers are of good quality if they are expressed in acceptable style of language. I hope editors to be more humble, considerate and humane; I know it is a difficult thing to ask for, because most of the editors feel they are superhuman or super aliens.

Before sending your paper to a journal reconsider your structure:

1. Can you state your objective?
2. Does the introduction state the background of your subject?
3. Can you state the main point of each paragraph?
4. Does each paragraph help develop the objective?
5. Are the paragraphs linked to each other?
6. Does each new paragraph reveal something new?
7. Is the method clear and adequately described?
8. Is the result relevant and credible?
 - No. of tables appropriate.
 - No. of figures appropriate.
9. Is the discussion fulfils the following:
 - Reasonable interpretation.
 - Reasonable speculation.
 - Compare and contrast with other studies.
 - Citing of previous publications.
10. Is the conclusion clear, valid and related to the study?
11. Are the references conforming to Vancouver style, relevant to the study and Up-to-date, which means within the last 5 years?
12. Had informed consent been taken?
13. Had the study been approved by the ethical committee?
14. Had the statistics been assessed properly?
15. Is your abstract structured and within 250 words?

Assessing Your Own Writing Skills

Practice makes your writing perfect. Choose the number that suits your skill or experience. Try to be honest when you select the number. Add up your score and then analyse the result.

Numbers one to four mean:

1. Is never . 2. Is sometimes. 3. Is often. 4. Is always.

1. I use writing as communication and documentation tool everyday at work.

1 2 3 4

2. I begin writing only when I reviewed previous references and finalized my research.

1 2 3 4

3. I try to make sure that I am clear and not boring my reader.

1 2 3 4

4. I use the dictionary whenever I am unsure about the spelling of a word.

1 2 3 4

5. I give my text to a colleague to evaluate it critically.

1 2 3 4

6. I read what I have written out loud to myself to discover spelling or construction mistakes, which I overlooked.

1 2 3 4

7. I make my aim totally clear to the reader.

1 2 3 4

8. I write my abstract or summary according to journal instruction.

1 2 3 4

9. I write the introduction according to IMRAD or biomedical instruction.

1 2 3 4

10. I write the Method according to IMRAD or biomedical instruction.

1 2 3 4

11. I write the result according to IMRAD or biomedical instruction.

1 2 3 4

12. I write the discussion according to IMRAD or biomedical instruction.

1 2 3 4

13. I write the conclusion according to IMRAD or biomedical instruction.

1 2 3 4

14. I write references according to Vancouver style.

1 2 3 4

15. I use language that is clear to the reader.

1 2 3 4

16. I clearly indicate the message from my study and the recommendation for improvement or future research.

1 2 3 4

17. I avoid the use of stilted language, slang, and unnecessary buzzwords.

1 2 3 4

18. I always read my work after one month to check for missed errors.

1 2 3 4

19. I make the information I supply as clear and easy to understand as possible.
1 2 3 4
20. I gather and organize my information before I start writing.
1 2 3 4
21. I try to use language that is positive.
1 2 3 4
22. I try to improve my knowledge through reading.
1 2 3 4
23. I think reading recent publication is essential for research writing.
1 2 3 4
24. I quote examples to back up the relevance of a given point of view.
1 2 3 4
25. I separate essential from important and important from supplementary.
1 2 3 4
26. I use the tools that the computer provides to help me improve my writing.
1 2 3 4
26. I try to be specific when gathering information.
1 2 3 4
27. I do not accept to be an author in any study except if I participated in its design,
gathering data or writing.
1 2 3 4
28. I always obtain informed consent for patients under study.
1 2 3 4
29. I always obtain the approval of ethical and research committees for my studies.
1 2 3 4
30. I keep constant eye on ethical guidelines concerning animals and human.
1 2 3 4
31. My first priority is to seek the truth in science not just publication.
1 2 3 4
32. I do not feel embarrassed to take courses in English language to improve my
writing.
1 2 3 4

If you have achieved 32-64 that means your written skill could be improved. Read a little more in your specialty and in fiction and practice writing.

If you have achieved 65-95 that means your written text has its highs and lows. Practice more, concentrate to be clear during writing.

If you have achieved 96-128 that means you write very well, but remember: there is always room for improvement.

Further Reading

1. Ebel HP, Bliefert C, Russey WE. *The Art of Scientific Writing*. 2nd ed. Weinheim: WILEY-VCH, 2004.

This is a practical guide for writing papers, books, statistics, figures, tables and literature citing. As well, it includes presentation of the research and the styles of journals.

2. Hawkins C, Sorgi M. *Research: How to Plan, Speak and Write About it*. 1st ed. New York: Springer Verlag, 1985.

This is an essential guide for conceiving the ideas of research, the method of writing, presenting and finally publishing. It is recommended for anyone planning to start research.

3. King LS. *Why Not Say It Clearly*. Boston: Little, Brown and Company, 1978.

This is a concise book on medical writing by the former senior editor of the *Journal of the American Medical Association*.

4. Lock S. *How to do it: 1 & 2*. 2nd ed. London: British Medical Association, 1985.

This is a comprehensive book, which is needed by all physicians. It covers a wide variety of subjects (examinations, conferences, research, paper and book writing etc.) The book is a collection of articles published by the *British Medical Journal* and written by experts in their field of interest.

5. Lock S. *Thorne's Better Medical Writing*. 2nd ed. Tunbridge Wells: Pitman Medical Publishing Co Ltd, 1977.

This is a practical book by the editor of the *British Medical Journal*. It contains many helpful remarks, suggestions and guidelines for good medical writing.

6. Moser RH, Erwin DC. *Adventures in Medical Writing*. Springfield, Illinois: Charles C. Thomas, 1970.

This is a collection of essays by six distinguished contributors in the field of medical writing.

7. O'Connor M, Woodford FP. *Writing Scientific Papers in English*. New York: Associated Scientific Publishers, 1975. (CIBA Foundation).

This is a step-by-step approach to write a paper. It includes initial writing, revisions, galley proofs, and a final checklist for authors.

8. Reynolds L, Simmonds D. Presentation of Data in Science. 1st ed. The Hague: Martinus Nijhoff Publishers, 1981.

This is a practical guide for publications, including the use of slides, posters, overhead projectors and television.

9. Seldes G. The Great Quotations. Pocket Books. USA: Carol Publishing Corporation, 1993

This book is a great guide on the uses and misuses of quotations.

10. Strunk W Jr, White EB, Angell R. The Elements of Style. 4th ed. New York: Longman, 2000.

11. George M Hall. How to write a paper. 2nd ed. London: BMJ publication, 2000.

12. Swinscow TDV, Campbell MJ. Statistics at square one. 10th ed. London: BMJ publication, 2002.

13. Hennecken CH, Buring JE. Epidemiology in medicine. Boston: Little Brown & Co, 1987.

14. Committee on Graduate training in Scientific Writing. Scientific Writing For Graduate Students. Maryland: Council of Biology Editors Inc, 1986.

15. Whimster WF. What the Critical Reader Looks for in an Original Article: A Guide for Writers. Hawkins C, Sorgi M. Research How to Plan, Speak and Write about it. New York: Springer-Verlag, 1985:85-109.

16. Whimster WF. Be Your Own Subeditor. Lock S. How To Do It. Vol.1, 2. 2nd ed. London: British Medical Association, 1985: 220-3.

17. Teaching writing to the non-native Speaker. There are many books which address this topic and many sites on the Web that you can visit.

These books and web sites examines the issues that arise when non-native speakers enter the developmental classroom. It includes profiles of international and permanent ESL students, factors influencing second-language acquisition, and tips on managing a multicultural classroom.

18. Use of Dictionaries-Chambers.

19. Thesaurus= Treasury of synonyms. Bartlett's familiar quotations.

You Need the Followings:

Computer

1. Microsoft office word.
2. Manuscript manager
3. Scanner, digital camera not less than 2 pixels.

4. Through the computer: Thesaurus, dictionary and Bartlett's quotations.
5. Statistics - (a) Crisp (b) Elsevier's Biosoft
<http://franz.stat.wisc.edu/~rossini/courses/intro-biomed/text/>
<http://www.cwrl.utexas.edu/~tonya/309m/class/paper4/browser/estat.html>.

Remember that William Faulkner, who won the Nobel Prize for literature, never even earned a college degree. Therefore, you have a better chance of excelling in the language if you persevere.

