in Crafting Medical Research Articles:
Tips and Suggestions
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Part 1

Writing such a paper is nothing less than an art

- Whenever you plan to write a medical research paper, having the correct details for everything that you pen down is essential. Also, writing such a paper is nothing less than an art. Making the perfect research paper takes a lot of work, research, edits, drafts, and so much more.

- But, you must follow no hard and fast rules to write these papers. But, you should get your hands on the right resources and follow a proper way of writing that can help in developing a flow and reaching an organized conclusion.

The Topic

- There should be a subject worthy of reporting, and that must be an addition to the existing literature. The author should read the previous relevant reports carefully and ensure that he or she is not repeating what has been done successfully before. Do not waste your time in writing a paper which will never be published.

Workshop Objectives:

- Through this workshop, we will explore……
- how to write an article
- academic English
- academic writing
- general features of academic writing
- highlight common grammatical mistakes/errors in writing research articles in medicine

How to Write a scientific paper

Article Sections

- Abstract
- Introduction
- Methods or Materials and Methods (use what the author has provided)
- Results
- Discussion
- Conclusion
- Acknowledgments
- References

Essential Steps of the Writing Process

- Interesting topic

- Do research

- Formulate a strong thesis statement

- Write the first draft of your essay

- Revise your first draft

- Edit and proofread your final draft

ACADEMIC ENGLISH

- **What is academic English?** (the most basic variety of English language is that we use to share the research)

Sharing the **research**

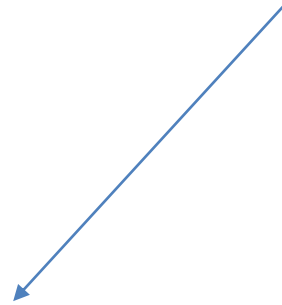- Answering some questions by creating an argument (which is supported to critical analysis by use of evidence)
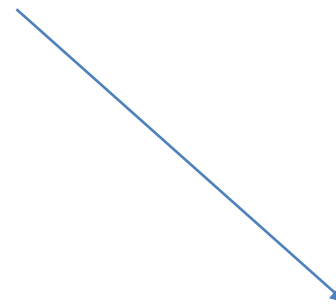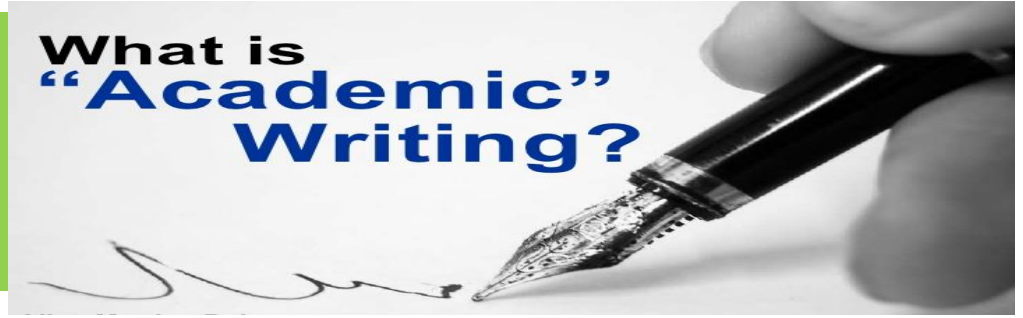
Writting Vs Speaking

What is academic English?

Spoken academic English   **Written academic English**

Written academic English

- Among the linguistic skills, **writing** is the most challenging one. A learner who has gained command over listening, reading and speaking can become a good writer. (To write on any topic, he needs to learn grammar perfectly, enrich his vocabulary and develop a **style of writing.**

Academic vs. Non-academic writing

- Academic writing is **the style of writing** we use in academic disciplines, which requires a special set of skills. Research projects, term papers, conference papers, essays, abstracts, reports, etc. in various disciplines are written in this style. (It always uses referencing and citation.)

- Writing for **non-academic** and non-technical purposes can be described as **general writing**. Diary, letters, emails, newspaper articles, advertisements, posters, etc. are all written in a general writing style.

- General writing has no specific set of audience or readers anyone can go for any general written topics.

Most Important Features of Academic Writing

- Formality
- Clarity
- Uncertainty
- Objectivity
- Brevity/ Verbosity avoidance

What is the importance of formality in academic writing?

- Writing in a formal way helps your writing to sound more **credible and authoritative.**

- Using a formal style of writing can make your writing appear more **trustworthy and knowledgeable.**

- **Demonstrate that you are able to convey accurately your precise meaning, in context, without ambiguity.**

- **Academic writing should be formal**

You **should** avoid

- **colloquial words** (informal speech) (a lot of, really, very, so, sort of, a couple of, like, …)

For example, 'somewhat' is more formal than 'a bit', 'insufficient' is more formal than 'not enough'.

   A lot of → many, several, numerous

   really, very, so → extremely, immensely

   like → such as

   Example: A couple of researchers have found that

           Several researchers have found that

- A 25-year-old woman presented with CSF rhinorrhea with no other accompanying symptom like headache, nausea, vomiting or fever.

Formality

- **contraction forms:** can't, doesn't, shouldn't, isn't, …

  Example: The blood cholesterol level didn't change after MDMA injection and therapeutic use of ghrelin

- **two word forms/ phrasal verbs** : get rid of → eliminate, fill out → complete a form , call off → cancel, do over → repeat, add up → equal

- **Idioms:** (because idiom cannot be understood literally, using them risks misinterpretation of meaning by readers without necessary language skills)

- Example:

- I won't *beat around the bush*; idioms shouldn't be used in academic writing. If you're *sitting on the fence* about it, let me tell you that academics *wouldn't be caught dead* their writing with idiomatic expressions.

Formality

- **Abbreviated words**: e.g. (for example/ exempli gratia), inc (including)
- photo → photograph, phone →telephone, TV → television
- **Exceptional:**
- In using a unit of measurement: mm, kg, g, 0°C
- You are using an abbreviation for an **organization** that you **have previously introduced**: It was recommended by The United nation Education, Scientific and Cultural Organization (UNESCO)
- **Avoid emotional language**. For example, instead of strong words such as 'wonderful' or 'terrible', use more moderate words such as '**helpful' or 'problematic**'.

Formality

- **Use of personal pronoun** → I, me, my, you, your, we, our

  Example: Our findings suggest the need to allocate resources for trauma prevention along with a potential focus on reducing in hospital.

- (By removing the personal pronoun we make our work sound more **objective** and more **scientific** which is based on **the fact** rather than opinion).

- Example: we think that discovery of …' (it shows our opinion)

- could be: The discovery of …' (it shows sth is proven and stronger)

- We will explore the desert to find out …

- The exploration of the desert will uncover …

- I will propose that …

- The paper propose that …

Writing with Clarity

- **Write so that the reader can easily follow what you are trying to say**

- Medical writing must be **clear and precise** to ensure that the information being conveyed is accurate and easily understood.

- Use **simple language and avoid jargon**, technical terms or abbreviations that may not be familiar to the reader.

  - write **as simply as** possible

Cautious/ hedging

- In academic debate**, few** things are completely certain.

- To express **this lack of certainty** be cautious in your language

- Use phrases like: **appears to, tends to, may, possibility, probability**, **apparently, generally, seemingly, often, the evidence suggests that, in some cases,** … ; **To the best of my knowledge, To my best knowledge, + Gaps in research**

- **Example:**

- To our knowledge, this report is the first retrospective association study of rs2232365 with MS.

Objectivity vs. Subjectivity
Facts vs. Opinion

- Avoid expression that indicate personal judgment, preferences or opinion personal subjective words such as: interesting, nice, wonderful, worthwhile, usual, natural

- (The readers understand of these words may be different from your own /they may not agree.)

Conciseness/ brevity

Medical writing should be concise and to the point. Use as few words as possible to convey the intended meaning. Avoid using unnecessary words or phrases that can make the sentence longer and more complex.

Example: Our website has made available many of the things you can use for making a decision on the best dentist.(20 words)

Revision: Our website presents criteria for determining the best dentist. (9 words)

Example: Instead of writing "In order to achieve a reduction in blood pressure, the patient was given medication," write "The patient received medication to reduce blood pressure."

Use of Terminology

Use of Terminology: Medical writing often requires the use of specific medical terminology. Ensure that the terminology is used correctly and consistently throughout the document. Define any technical terms or abbreviations the first time they are used.

- Example: "Acute myocardial infarction (AMI) is a medical emergency that requires immediate treatment."

To err is human!
Common mistakes in academic writing

- 1- Usage of Articles

a. Indefinite: A / An
    Always put **a** and **an** before a singular, common noun.

    - **a** goes before all words begin with a consonant, except an unsounded **h**
        Example: **a** patient, **a** doctor
                an hour, **an** honorable man
    - The noun the article **a** supports is not a unique one. Other examples of it exist.
    - **a** is used in the sense of one
        Example: he couldn't speak **a word** to save himself.

Article usage

- **a** is used with vowel letters having a consonant value.

Example: a university, a unique idea, a unit. A European language

- **a** is used when noun is new to the reader

- **an** is used before words beginning with a vowel sounds (e, a, i, o, u)

- **Example**: obesity is **an** independent predictor of sleepiness, MS is **an** autoimmune disease

- f, H, L, M, N, R, S, X are letters that are not vowels but begin with vowel sound, M has the sound of EM. So **an** is used before abbreviations beginning with vowels or these letters.

Examples: an M.L.A, an R.A.F,

Article usage

- Definite Article: **The**

- When we speak of a particular person or thing already referred to.

  Example: All patients were recruited to this study, referred by neurologists. **The** patients had definite MS according to McDonald's criteria

- When a single noun represents a whole class

  Example: **The computer** has made the text editing easier.

Punctuation

- 2- **Punctuation (**Punctuation marks are also used to avoid ambiguity, Improper punctuation confuses readers)

- **Comma:**

use a comma to set off the elements of a series (two or more items)

Example:

- Partial effects of age, gender, injury mechanism, **and** injured body region on mortality were investigated.

Comma

- Use a comma and **coordinating conjunction** (and, but, or, nor, for, yet, so) to separate independent clauses (contain a subject and a verb).

Both sides of ", and" (with a comma) need to have a subject and a verb (be independent clauses)

- **But "and" (without a comma) does NOT need to have a second subject; but it can, if the sentence is not too long**

- Example:

- Incorrect
  - The cells were pretreated with pertussis toxin for 24 hr, and lysed by scraping in a hypotonic buffer.

Comma

- Use commas after **introductory** clauses, phrases, or words that come **before the main clause**.

- Example:

- **Since the majority of immediate deaths are caused by severe head injuries,** we hypothesize that patients with severe thoracic trauma will survive long enough to reach hospital.

- **In Iran,** high blood pressure has been the second most important cause of mortality and morbidity since 1990.

Comma

- Use comma to set apart a **parenthetical phrase** in a sentence.
- (Parenthetical" loosely means that it could also be put in parentheses, or that it is an "aside" or an "addition"; the sentence would be complete without it).
- **Commas always come in pairs when in the middle of a sentence!**

Example:

- Propranolol, the prototypical beta antagonist, has many dangerous side effects.
- **One comma is OK only if the parenthetical statement ends the sentence.**
- Example:
- The reaction was inhibited by C3 toxin, a selective blocker of Rho.

Colon : & semicolon ;

A colon introduces a list or emphasizes what comes after

Example:

The study opened three new fields: A, B, C….

A semicolon stands between two independent clauses

Example: *Great Expectations* ends with a death; *David Copperfield* begins with one.

Avoid: *Great Expectations* ends with a death; contrary to *David Copperfield*.

- MS is particularly prevalent among young adults; approximately 90 percent of MS patients are under the age of 55.

Avoid these /Watch Out

- **Avoid basically common used verbs → do, make, get**

(use of these vocab makes your writing immature, repetitive, and boring) (instead use high resister vocabulary that give your writing a more intellectual and more formal tone)

Example:

A research was done to get the result

A research was conducted to obtain the result

Conditions have got better now they have made changes

Conditions have improved since changes were implemented

Watch Out

- **Never start a sentence with a conjunctions** → For, and, not, nor, because, but, or, yet, so → (**FANBOYS**)
- (this is because conjunctions join and link ideas within sentences. Use them to start sentences in creative and informal writing only)

  Instead

- **Use subordinate conjunction→ A**s, In addition, Due to, Further to this
- Example:

 Because the research was only conducted on undergraduates, it lacks ecological validity. And there are other reason…

 As the research was only conducted on undergraduates, it lacks ecological validity. In addition, there are other reason…

Watch Out

- Use higher form of the words where possible

- So vs. therefore / but vs. however, nonetheless, nevertheless, notwithstanding the fact that / like vs. such as/ ask vs. question / think vs. consider

- Never begin a sentence with a number (spell it out)

 12 participants reported muscle pain.

Twelve participants reported muscle pain.

- Numbers under ten should written as words

- Example: A 43-year-old (hyphenated adjectives) woman presented with CSF rhinorrhea in left nostril from 2 months before admission.

Commonly Misspelled Words

- your   you're
- to   too   two
- there   their   they're
- its   it's
- quite   quiet
- than   then
- whose   who's

Words and Phrases to Avoid

- Do not capitalize subjects like biology, math, science, history.
- Use the word "finish" instead of "done"

Very, really, quite, basically, generally

These words seldom add anything useful. Try the sentence without them and see if it improves.

Watch Out

Watch out for the verb "to be"

Often "there are" is extra weight.

- There are many students who like writing.
  - Many students like writing.

Dead weight phrases

- in the event that

- in the nature of

- it has been estimated that

- it seems that

- the point I am trying to make

- what I mean to say is

- it may be argued that

Dead weight phrases

- for the most part
- for the purpose of
- in a manner of speaking
- in a very real sense
- in my opinion
- in the case of
- in the final analysis

Clunky phrase	**Equivalent**
• All three of the	the three
• Fewer in number	fewer
• Give rise to	cause
• In all cases	always
• In a position to	can
• In close proximity to	near
• In order to	to

Clunky phrase	Equivalent
A majority of	most
A number of	many
Are of the same opinion	agree
At the present moment	now
Less frequently occurring	rare

Beware of

Use instead

- With the possible exception of   except

- Due to the fact that   because

- For the purpose of   for

Wordy	Pointed
in spite of the fact that	although
in the event that	if
new innovations	innovations
one and the same	the same
period of four days	four days
personal opinion	opinion
shorter/longer in length	shorter/longer

Eliminate negatives; use positive constructions instead

- **He was <u>not</u> often on time**
  - **He usually came late.**

- **She did <u>not</u> think that studying writing was a sensible use of one's time.**
  - **She thought studying writing was a waste of time.**

Eliminate negatives; use positive constructions instead

- Not honest   dishonest
- Not important   trifling
- Does not have   lacks
- Did not remember   forgot
- Did not pay attention to   ignored
- Did not have much confidence   distrusted
- Did not succeed   failed

THANK YOU FOR YOUR ATTENTION