Strategies for Writing and Publishing Journal Articles

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Objectives for Today's Presentation

- Review the various components of a biomedical journal article
- Present a few tips on clear and effective scientific writing
- Present guidelines for ethical publishing
- Discuss rejection and revision

Essential Elements of a Manuscript

- Based on what was known and unknown, why did you do the study?
  - Introduction
- How did you do the study?
  - Methods
- What did you find?
  - Results
- What does it mean in the context of the existing body of knowledge?
  - Discussion

Courtesy of the American Physiological Society

For In-Depth Information on Manuscript Management

Strategies for Writing and Publishing Journal Articles

Continuing Medical Education

https://cme.wustl.edu/

CME Online

Launch date will be announced.

Writing the Paper

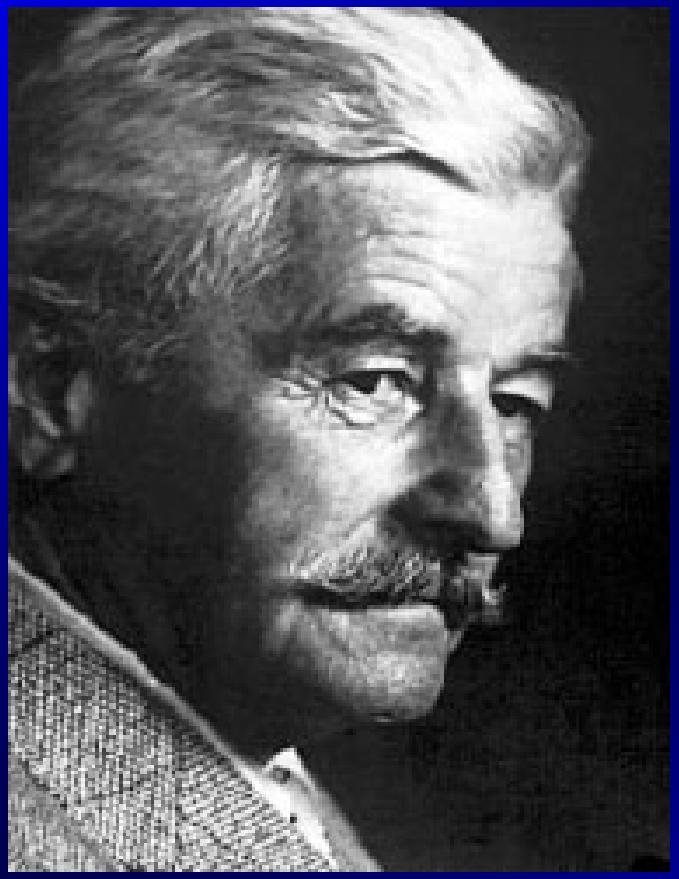
Basic Scientific Writing Tips

- When writing a biomedical manuscript:
  - Tell your story.
  - Write logically (use transitions).
  - Be clear and concise.
  - Simplify your writing.

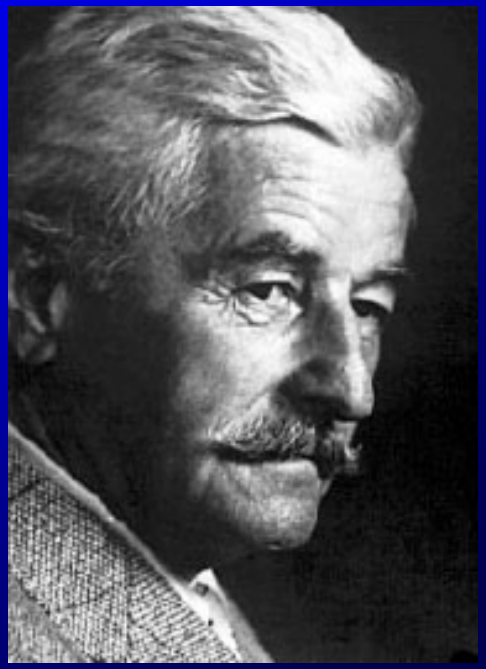
Simplify Your Writing

Sentences are clearest, most forceful, and easiest to understand if they are simple and direct.

Biomedical Writing With William Faulkner and Ernest Hemingway

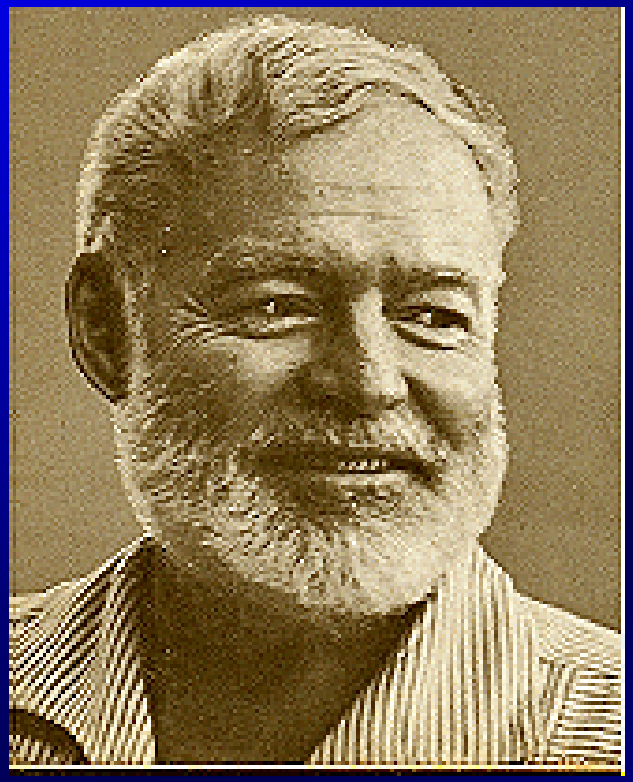


Faulkner: The Artist



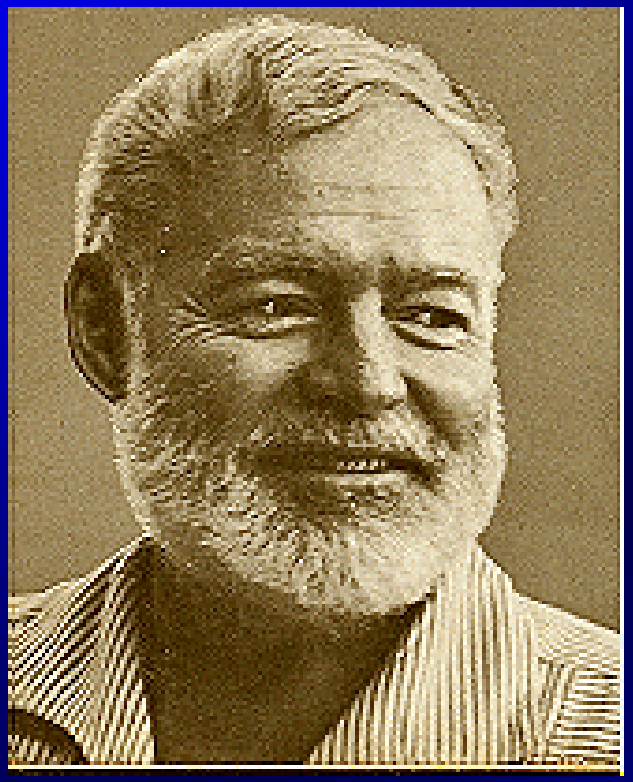
“Loving all of it even while he had to hate some of it because he knows now that you don’t love because: you love despite; not for the virtues, but despite the faults.”

Hemingway: The Journalist



“All you have to do is write one true sentence. Write the truest sentence that you know.”

Hemingway: The Journalist



When challenged to write a full story in six words, he responded: "For Sale: baby shoes, never worn."

--Courtesy of Jay Piccirillo, MD

Building Your Manuscript

- Word Choice
- Sentence Structure
- Paragraph Structure

Word Choice

- Use common words.
- Define technical words early, both in the abstract and in the main body of the proposal.
- Never assume that your reader will understand “jargon.”
- Always spell out acronyms at first mention.
- Don’t trust spell check.
- Proofread, proofread, proofread!

Word Choice

Use the word that conveys your meaning most accurately. When deciding between two such words, choose the shorter word:

Approximately	About
Commence	Begin
Finalize	Finish
Prioritize	Rank
Terminate	End
Utilize	Use

Word Choice Problems

The problems that copyeditors see most frequently are *words carelessly interchanged*. This can affect scientific meaning.

Word Choice Problems

Ability vs. Capacity

- ***Ability*** **is the mental or physical power to do something, or the skill in doing it.**
- ***Capacity*** **is the full amount that something can hold, contain, or receive.**

Sentence Structure

- Write short sentences like Hemingway, not long sentences like Faulkner.
- Put parallel ideas in parallel form.
- Simplify by using “active voice.”
- Use strong verbs, not nouns.
- Tighten your writing.

Put parallel ideas in parallel form.

To give a comfortable rhythm to your writing, use the same pattern for ideas that have the same logical function. Balance elements of the sentence: nouns with nouns, verbs with verbs, adverbs with adverbs, and prepositions with prepositions.

Instead of: "Tissue samples were weighed, then frozen, and analyses were performed."

Write: "Tissue samples were weighed, frozen, and analyzed."

Simplify by using active voice.

To simplify, use active, not passive, voice:

"The new drug caused a decrease in heart rate."

Revised:

"The new drug decreased heart rate."

Use strong verbs, not nouns.

Make an adjustment	Adjust
Make a judgment	Judge
Make a decision	Decide
Perform an investigation	Investigate
Make a referral	Refer
Reach a conclusion	Conclude

Tighten your writing.

At the present time…	Now
Due to the fact that…	Because
It may be that…	Perhaps
In the event that…	If
Prior to the start of...	Before
On two separate occasions…	Twice

Ethics in Publishing

Ethical Guidelines for Biomedical Publishing

- Intellectual honesty
- Accurate assignment of credit
- Fairness in peer review
- Collegiality in scientific and clinical interactions
- Transparency in conflicts of interest
- Protection of human and animal subjects

Courtesy of the American Physiological Society

Ethical Responsibilities of an Author

- Authors should be knowledgeable about:
  - Conflict of Interest
  - Duplicate Publication, Plagiarism, Falsification
  - Prior Publication
  - Experiments Involving Humans or Animals
  - Fraud

Courtesy of the American Physiological Society

Ethics in Publishing

- **Plagiarism**
  - **Definition**: Taking the work of another. Copying a figure, table, data, or even wording from a published or unpublished paper without attribution.
  - **How to Avoid**: Provide citations to the work of others. Obtain copyright permission if needed. Do not copy exact wording from another's paper to yours, even if referenced, unless in quotes.

Courtesy of the American Physiological Society

Ethics in Publishing

- **Duplicate Publication**
  - **Definition**: Submission of or publication of the same paper or substantial parts of a paper in more than one place.
  - **How to Avoid**: Do not submit the paper or parts of that paper to more than one journal at a time. Wait until your paper is rejected or withdraw it before submitting elsewhere.

Courtesy of the American Physiological Society

Ethics in Publishing

- **Redundant Publication**
  - **Definition**: Using text or data in a new paper from a paper that is already published. Also called auto- or self-plagiarism.
  - **How to Avoid**: Do not include material from a previous study in a new one, even for statistical analysis. Repeat control groups as needed.

Courtesy of the American Physiological Society

Ethics in Publishing

- **Falsification and Fabrication**
  - **Definition: Changing or making up data in a manuscript, usually to improve the results of the experiment. Includes digital manipulation of images (blots, micrographs, etc.)**
  - **How to Avoid: Present the exact results obtained. Do not withhold data that don't fit your hypothesis. Don't try to beautify images with Photoshop—any manipulations must apply to the whole image.**

Courtesy of the American Physiological Society

Unacceptable Figure Manipulation

- Improper editing
- Improper grouping
- Improper adjustment
  - Authors should not:
    - Move
    - Remove
    - Introduce
    - Obscure
    - Enhance

any specific feature within a image. Images should appear as captured in the lab or clinical environment.

Courtesy of the American Physiological Society

Ethics in Publishing

- **Human/Animal Welfare Problems**
  - **Definition: Treatment of experimental subjects that does not conform with accepted standards and journal policy.**
  - **How to Avoid: Obtain prospective IRB/IACUC approval for the study protocol. Do not deviate from the protocol. Obtain approval for amendments as needed before altering the protocol.**

Courtesy of the American Physiological Society

Ethics in Publishing

- **Conflict of Interest**
  - **Definition**: Real or perceived conflict due to employment, consulting, or investment in entities with an interest in the outcome of the research.
  - **How to Avoid**: Disclose all potential conflicts to the Editor of the journal and within the manuscript itself.

Courtesy of the American Physiological Society

Ethics in Publishing

- **Authorship Disputes**
  - **Definition: Disputes arising from the addition, deletion, or change of order of authors.**
  - **How to Avoid: Agree on authorship before writing begins, preferably at the start of the study. Ensure that all authors meet criteria for authorship. Sign publisher authorship forms.**

Courtesy of the American Physiological Society

Dealing with Rejection/Revision

Major Reasons for Rejection

- Inappropriate for the journal
  - Do your homework
- Merely confirmatory/incremental
  - Avoid Least Publishable Unit (LPUs)
- Describes poorly-designed or inconclusive studies
  - Focus on your hypothesis
- Poorly written
  - Great science in an ugly package can still be rejected

Courtesy of the American Physiological Society

Revisions

- If your paper is returned for revision, you are in good company
- It's OK to get mad, but don't act on it!
- Try to understand what the reviewers are really saying
  - If the reviewers did not understand your work, is it because you didn't present it clearly in the first place?
- Look for clues from the editor (the final arbiter) as to the extent of revision needed
  - Re-writes only?
  - More experiments?

Courtesy of the American Physiological Society

Responding to Reviewers

- Complete additional experiments if needed
- Address all comments in a point-by-point fashion
  - Resist the temptation to prepare an impassioned response to points with which you disagree
  - Stand firm (diplomatically) if that is truly the right thing to do
- Sincerely thank the editor and reviewers for helping you to improve your work
  - They have invested a lot of time, mostly on a voluntary basis
- Ask a neutral colleague to review your response

Courtesy of the American Physiological Society

More Tips for Success

Tips for Success

- Know the journal, its editor, and why you submitted your paper there
- Read the instructions for authors
- Avoid careless spelling, grammar, formatting mistakes
- Make sure references are appropriate and accurate
  - Remember who your reviewers might be!
- Ensure appropriate file format, including figures
  - Is the on-line version the one you want the reviewers to see?
- Confirm receipt of submission

Courtesy of the American Physiological Society

Tips for Success

Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication

http://www.icmje.org/

For More Information

Office of Faculty Affairs

Academic Publishing Services

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362-4181

Campus Box 8091

Room 116, Medical Library

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