

# **Strategies for Writing and Publishing Journal Articles**

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# Objectives for Today's Presentation

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- ❖ 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

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- ❖ 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

# **For In-Depth Information on Manuscript Management**

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## **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

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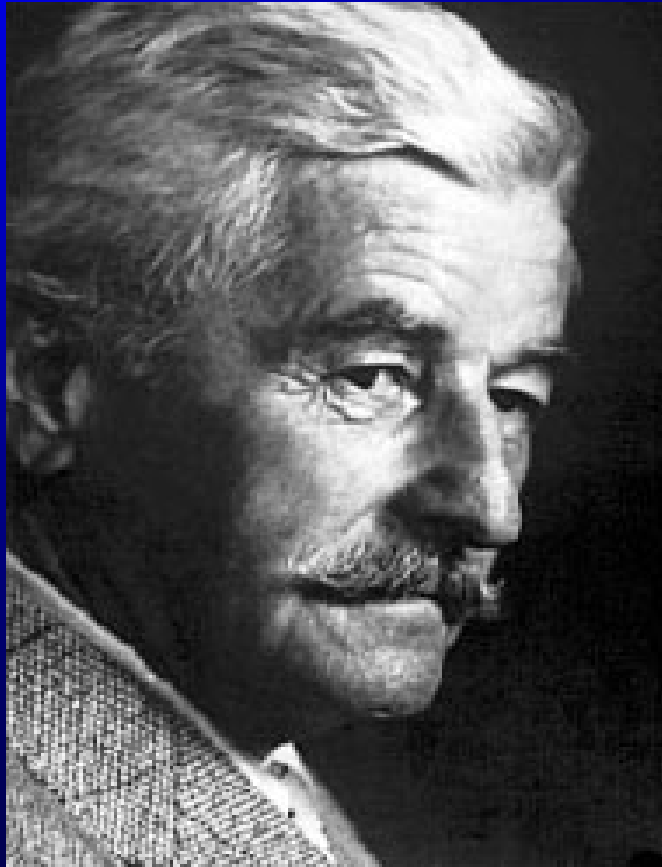
- ❖ **When writing a biomedical manuscript:**
  - ◆ **Tell your story.**
  - ◆ **Write logically (use transitions).**
  - ◆ **Be clear and concise.**
  - ◆ **Simplify your writing.**

# **Simplify Your Writing**

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

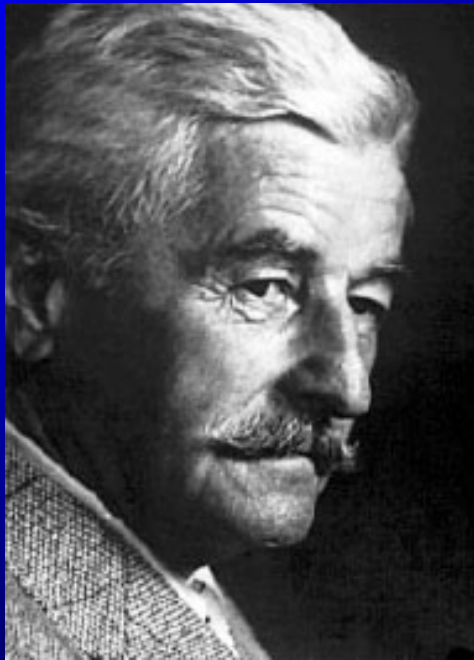
# Biomedical Writing With William Faulkner and Ernest Hemingway





# Faulkner: The Artist

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**“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

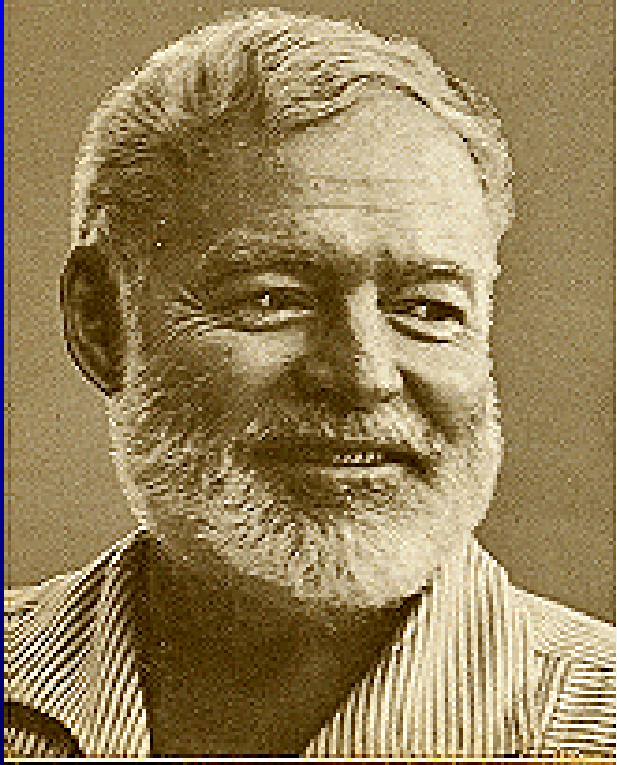
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**“All you have to do is  
write one true sentence.  
Write the truest sentence  
that you know.”**

# Hemingway: The Journalist

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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

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❖ **Word Choice**

❖ **Sentence Structure**

❖ **Paragraph Structure**

# Word Choice

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- ❖ 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

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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

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

# Word Choice Problems

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## 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

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- ❖ 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.

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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.

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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.

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**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.

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**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

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- ❖ 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

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- ❖ **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

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## ❖ 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.

# Ethics in Publishing

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## ❖ 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

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## ❖ 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

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## ❖ 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

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- ❖ 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.

# Ethics in Publishing

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## ❖ 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

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## ❖ 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

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## ❖ 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

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- ❖ **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**

# Revisions

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- ❖ 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?

# Responding to Reviewers

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- ❖ **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**

# **More Tips for Success**

# Tips for Success

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- ❖ 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

# Tips for Success

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

**<http://www.icmje.org/>**

# **For More Information**

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**Office of Faculty Affairs  
Academic Publishing Services  
Karen.Dodson@wustl.edu  
362-4181  
Campus Box 8091  
Room 116, Medical Library**



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