Guidelines to Writing an Abstract

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Introduction to Research Principles Scholarship Program
DISCLOSURES

• *Nothing to disclose*
Functions of Abstracts

- Describe longer documents, whether already written or to be written
- Serve as preludes to articles (descriptive, informative, structured)
- Represent submissions to national scientific meetings
- Common denominator – short, concise and can stand alone
Why are Article Abstracts Important?

- Often only part of an article that is read
- Represent the “hook” to read further
- Should be a sensitive and specific screening tool, allowing readers to identify interesting articles
- Should stress content and not methodologic quality (setting, patients, intervention(s), control(s), endpoint(s), and design(s) = “spiced”)
Why are Scientific Meeting Abstracts Important?

- Promote sharing of earliest form of new medical information
- Promote national visibility of presenter
- Provide opportunities for feedback and criticism
- Provide opportunities for networking and collaboration
Common Problems with Abstracts

- Do not contain key information for readers to determine whether to read full article (e.g., endpoint(s), intervention)
- Contain information that is missing from or inconsistent with the full article
- Meeting abstracts often (33-60%) not followed by publication of a full article, raising doubts about the quality of the research
Article Abstracts

**Descriptive** (150 words) – paragraph describing the content of an article that is typically theoretical, methodological, or a review

**Informative** (150-250 words) – paragraph with an introduction, methods, results, and conclusion that reports specific information from an article

**Structured** (250-300 words) – uses a series of headings to present information from research findings published in clinical journals.
Common Headings for Structured Abstracts

- **Background or context**
- **Purpose or objective**
- **Patients or participants**
- **Setting**
- **Main outcome measure(s)**
- **Results**
- **Conclusions**
Scientific Meeting Abstracts

• Present key points of research, often prior to publication and/or prior to its completion
• Published in conference proceedings and presented orally or in poster sessions
• May contain tables/figures or references, unlike article abstracts
• Have unique space and formatting rules
• Promissory abstracts — written before research is completed (check rules)
Article Abstract Writing Process

- Write after article is written and polished
- Select key phrases and sentences from article and sort into appropriate bins
- Identify and report results of primary comparison
- Make sure conclusion is supported by data
- Make sure all parts are consistent with and found in the article
- Edit, edit, edit...until smooth and meets word or space limits
Meeting Abstract Writing Process

- Take several days or more to write, well in advance of deadline
- Follow all rules (size, word number, structure, font)
- Avoid jargon and excessive abbreviations
- Address content before length
- Make full use of space or word limit
- Get input of collaborators, mentors, and non-familiar reviewers

Read aloud to test of fluidity
• Abstracts must include the following parts: Objectives; Methods; Results; Conclusions

• Your abstract body may have a maximum of 2,000 characters (approximately 250 words; spaces included). Each table, figure, graph, or image can reduce the character limit by up to 560 characters (depending on the size) from the overall 2,000 characters. The title, authors or affiliations are not included in the overall character limit. The total maximum number of tables, figures, graphs, and images is 6.

• Abstract Text. Do not include title or authors within the abstract text.
Pointers for Writing the Title

- **Be focused, concise and specific**
- **Avoid general titles**
- **Your title should give away the main message of your paper**
- **Avoid open ended questions as they are often not allowed by the journal**
Pointers for Writing the Introduction or Background

• **Capture the reader by using interesting words or a sentence that conveys a gap, problem, or contradiction in what is known**
  – Speed dating with the reviewers

• **Clearly state purpose or aims/goals**
  – Must have a focused question

• **Include apriori hypothesis, if one exists**
Pointers for Writing the Methods Section(s)

- **Establish content priorities based on design**
- **Key materials to describe:**
  - study design
  - eligibility criteria
  - setting and time frame
  - baseline data collection
  - primary and secondary outcomes
  - interventions or exposures (if relevant)
  - methods of analysis
Pointers for Writing the Results Section

- Study enrollment numbers
- Baseline characteristics of patients
- Unadjusted followed by adjusted outcomes
- Consider using table or figure to save space
- Avoid simple descriptions with no comparisons
- Provide $p$-values for positive findings or power statements for negative findings
Pointers for Writing the Conclusion(s)

• **Must be supported by the data in abstract**
  – Avoid fatal flaw of overreaching conclusions

• **Can state the limitations**

• **If implications are stated, make sure they are supported by data in abstract**

• **Do not end with a call for more research**
What is the Right Proportion for Each Section of an Abstract?

- 1:2:2:1

- Introduction : methods : results : conclusion
Tips to Reduce Word Counts - I

- Use plurals to eliminate articles
- Hyphenate, when appropriate
- Use abbreviations modestly
- Use prefixes instead of modifiers
- Avoid empty words
- Use verbs, not verbs as nouns or adjectives
- Remove prepositional phrases with adjectives
- Avoid wordy phrases; replace with single words
Tips to Reduce Word Counts – II

• *Use numerals (except to begin sentences)*

• *Use active voice*

• *Do not use spaces between numerals or math symbols*

• *Avoid multiple quantifications*

• *Avoid repetition by making lists*

• *Use parallel construction*
Avoid Fatal Flaws

• **Must have an explicit research question.**

• **Clear and concise**
  - *The reviewer cannot read you mind. Must dazzle the reviewer in 60 seconds*

• **How did you do it: stand alone methods section**

• Avoid overreaching/philosophical conclusions
References


• Winker MA. The need for Concrete Improvement in Abstract Quality. *JAMA* 1999;28:1129-1130.


• University of Pittsburgh ICRE. MEDEDU 2140: Medical Writing and Presentation Skills
THANK YOU. chaerra@upmc.edu