How to Write a Scientific Abstract: Tips and Tricks

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Outline

- What is an abstract?
- General rules and requirements
- Title
- Methods
- Results
- Conclusions and recommendations

What is an Abstract?

- Summary of a paper for meeting presentations or journal publication that informs the readers about the article's content
- Complex data and manuscript presented in a clear and concise manner
- Due to an overwhelming amount of publications, readers use abstracts to determine whether a paper is of their interest and relevant to their work and decide to acquire and read
- The abstract is the only part of a paper published in conference proceedings
- The only part of a paper that can be seen on electronic databases such as PubMed and other literature search engines

General rules and requirements

- For meeting abstracts, always be aware of upcoming submission deadlines
- Review abstract requirements in regards to abstract structure, word limits, font and space size
- Provide ample time for your co-authors and senior author to review, provide feedback and approve for submission
- Use an active voice, for ex: *we performed, we evaluated, we assessed, etc.*
- Seek advice from someone who has experience
- Practice makes it perfect

Title

- Very important if not the most important part of the abstract
- Title should be clear, concise and “catchy”
- Title should summarize the work you have performed and convince the reader that the topic is important, relevant and innovative
- The type of study should be clearly stated on the title, for example: prospective, randomized, double or single blinded, *in vitro, in vivo,* multicenter or international
- The abstract title can be the title of the manuscript

Title examples

Prospective Randomized Single-Blinded In Vitro and Ex Vivo Evaluation of New and Reprocessed Laparoscopic Trocars

Adam C Mues, MD, Georgios Haramis, MD, Cristin Casazza, MS, Zhamshid Okhunov, MD, Ketan K Badani, MD, Jaime Landman, MD

Techniques in Endourology

Endoscopically Guided Percutaneous Renal Access: "Seeing Is Believing"*

FARHAN KHAN, M.D.,[1] JAMES F. BORIN, M.D.,[1] MARGARET S. PEARLE, M.D.,[2] ELSPETH M. McDOUGALL, M.D.,[1] and RALPH V. CLAYMAN, M.D.[1]

Introduction

- Must be phrased in a clear and concise manner for your reader to understand your objectives
- Introduce the study topic of the paper
- A sentence or two to summarize previously performed studies and limitations of existing literature on the topic
- State the key research question
- Delineate your primary and secondary outcomes

Methodology

- The main goal is to phrase and explain in a way that your readers can understand and build on your work
- You did not write it well if they can't understand and replicate your study design
- Following information must be provided:
  - Study design, research setting, study period, number of institutions, clinical diagnosis of the patients recruited into the study, sample size if power calculation was performed, definitions of the primary and secondary outcomes and how they were measured, tests used for statistical analysis

Results

- Results must be presented in a clear and concise manner
- The results must consulted with a professional statistician and principal investigator
- Following important information must be provided:
  - Number of patients recruited and completed the study
  - Important demographic information must be provided
  - Means, medians, standard deviations and P values must be provided in parenthesis
  - As much information as possible on primary and secondary outcomes
  - Important negative findings, failures and complications

Tables and graphs

- Tables and graphs enhance the data presentation
- Tables and graphs help to present detailed and complex data relationships and facilitate the readers understanding
- Different conferences and journals have specific submission guidelines
- Refer to your table or graph in the text of your abstract
- Use graphs and figures to show trends, patterns and relationships across different data sets
- Do not repeat the results in the text and in a table or other graphs

Conclusions

- Conclusions should not represent a biased opinion on study findings such as providing only favorably significant results that support your hypothesis
- Important nonsignificant and negative findings should also be reported
- The limitations of the study must be outlined as possible within the word count limits
- Future recommendations must be made based on your findings and study limitations
- Proofread and circulate to all co-authors prior to submission. Perfect is acceptable!

Thank You!