

# Writing an Original Research Manuscript:

## The Don'ts and Do's

David Kallmes, MD

Deputy Editor

# *Don't* ignore Guidelines and Information for Authors

Our Goal: Help you build and optimize the structure and content of your manuscript

# Your Key Point

- *Don't* try to reconstruct the whole disease process from its original discovery
- *Do* focus on the one or two “key points” that reflect the purpose of your study

# Your Key Point

- Is essentially your *Purpose*
  - *Better to have a well defined, essential purpose rather than diffuse purpose*
- Purpose is the backbone of your study, and impacts ALL sections of the paper

# Do: Pay attention to the \*STARD Initiative Checklist

*25 item STARD Checklist is an excellent guide any clinical manuscript!*

Prospective or Retrospective

Inclusion/Exclusion Criteria

Sequential subject enrollment, Age and gender distribution.

Data acquisition: Who?, Experience?, Blinded?, Consensus?

Reference Standard=Index Test well defined, documented in the literature?

Data Interpretation: Who? (Any Industry Affiliation)

# Abstract: Do's

- **Purpose:** Identical to that in the Introduction.
- **M&M:** IRB or equivalent. What was done and how was it done. Type of statistical tests employed.
- **Results:** Numbers, observations, P values.
- **Conclusion:** What is your Key Point?

# Advances in Knowledge: Required

- *Don't* list anything that
  - Is not directly shown by your study, or
  - Is not new
  - Is merely a statement of methods
- *Do* give quantitative data that supports your results

# Implications for Patient Care: Usually required

- *Don't* make long “reaches” to claim that there are implications
- *Do* tie in your research results to how they could impact patient care

# Introduction: *Don'ts*

- *Don't* start with “In 1896 Roentgen discovered X-rays...”
- *Don't* give an encyclopedic review of all related literature

# Introduction: *Do's*

- *Do* offer a focused, brief discourse on current knowledge
- *Do* convince the reader that your study matters
- *Do* focus on the purpose of your study
  - State this purpose at the end of the introduction EXACTLY the same as in the abstract

# Methods: *Do* ensure the study is ethical

- Structure your methods such that someone else can EXACTLY reproduce your work

# Methods: *Do*

- Follow:
  - \*STARD Initiative- Standards for Reporting of Diagnostic Accuracy (diagnostic accuracy).
  - \*CONSORT Statement- Consolidated Standards of Reporting Trials (randomized controlled trials).
  - \*PRISMA Statement- Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

# Methods: *Don't*

## Forget to include Statistical section

- Statistical methods are often complex, but how they analyze the data is not
  - Brief explanation
- What are the variables and are they well defined?

# Methods: *Don't*

- Present methodology for Data with no corresponding Data in Results.

# Results: *Do's*

- Any *result* should have a corresponding *method*
- Extensive results....consider a visual aid (diagram, figure)
  - Results are clear to the authors but are they for the readers?
- Make sure statistics assess all data generated

# Discussion:

- *Don't* start out with an exhaustive literature review
- *Don't* restate your Introduction
- *Don't* restate all of your Results
- *Don't* stray from your Key Point

# Discussion: *Do* consider the following simple formula\*:

1. What did YOU find and why is it important? (1-2 paragraphs)
2. What have OTHERS found and why are your results better/different/confirmatory? (1-2 paragraphs)
3. What were the limitations of your study (1 paragraph)
4. What, if anything, comes next? (Optional)

\*Acknowledgment: Bruce Hillman, MD

# Discussion: Paragraph 1

- In this study *we demonstrated that*, as compared to conventional angiography, MRA is as accurate in detecting aneurysm remnants....These *findings are important because* patients may be followed without the need for ionizing radiation....

# Discussion: Paragraph 2

- *Previous authors*, using retrospective analyses in small case series, have noted equivalence in accuracy between MRA and conventional angiography....Our study *adds to the current literature* by providing a large, prospective.....

# Discussion: Paragraph 3

- Our study *suffered several limitations*. *First*, readers were not blinded.....*Second*, interobserver variability was only moderate.....

# Discussion: Paragraph 4

- Our study, while important, *demonstrates the need for additional, prospective and, ideally, blinded.....*

## My own “key points”:

- Read the instructions  
<http://pubs.rsna.org/page/radiology/pia>
- Focus all sections on your Key Point
- Assume your audience knows at least a little bit and structure your paper to facilitate their *incremental* gain in knowledge