Writing an Original Research Manuscript:
The Don’ts and Do’s

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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.

*http://pubs.rsna.org/page/radiology/pia*
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