

2022 Research Boot Camp Series: Building a Manuscript

Presented by:

Research in Outcomes for Children's Surgery (ROCS)

Center for Children's Surgery

Building a manuscript Overview

1. Preparation.
2. Writing your manuscript
3. Steps to getting your manuscript published.
4. Submission process.

Types of Manuscripts

- Reports
- Protocols
- **Original research**
- Narrative review
- Systematic review
- Meta analysis
- Editorial commentary
- Other

1: Preparation

Six Things to Do Before Writing Your Manuscript

1. Contact your biostatistician to discuss analysis requests and co-authorship!
2. Think about the take-home message of your research.
3. Choose the target journal.
4. Pay attention to journal requirements in the Guide for Authors.
5. Pay attention to table and figure formatting and limitations.
6. Consult your mentor or senior author for the specifics of writing a manuscript in your field!

2: Writing your Manuscript

1. Title

2. Abstract

3. Introduction

- What have other researchers done? What gap will your manuscript fill?

4. Methods

- Where, when, and how did you do it?

5. Results

- What was statistically and/or clinically significant?

6. Discussion

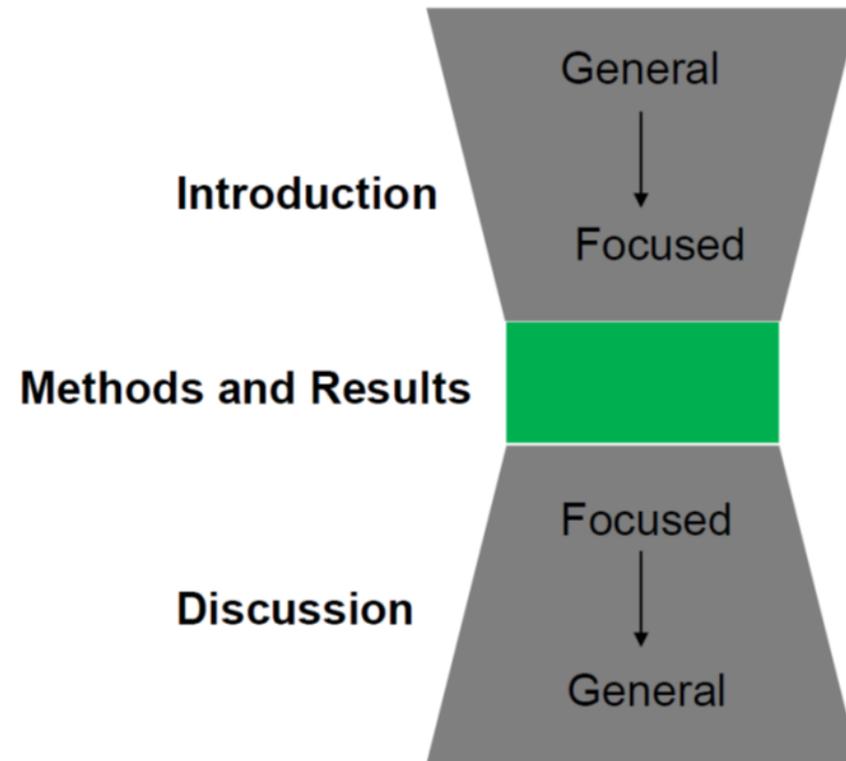
- What is the take-home message? What were your limitations and what needs be done next?

2: Writing your Manuscript

It may be helpful to write in reverse order!

1. Results
2. Discussion
 - Including statistical limitations
3. Methods
 - Including statistical methods written by your biostatistician!
4. Introduction
5. Abstract
6. Title

2: Writing your Manuscript



2: Writing your Introduction

Your introduction should include:

- Importance of the condition, both locally and globally
- Importance of the clinical aspect of interest
- Identification of gaps in knowledge
- Objectives of your study
 - These should be answerable with your data and analysis plan!

2: Writing your Methods

Your methods should include:

- Study design
 - RCT, cohort, case-control, time series, etc.
- Setting
 - Where and when did the study occur?
- Participants
 - Study population
 - Inclusion/exclusion criteria
- Data source
 - EHR, prospective collection, national databases, etc.

2: Writing your Methods

Your methods should include:

- Quantification of variables
 - Define outcomes, exposures, confounders, and their operationalization
 - Survey information, including version and scoring services used
- Data analysis
 - Your biostatistician will draft this section for you!
 - Power/sample size calculation, statistical tests, statistical assumptions, model selection, covariates, etc.
 - Should include software information, including version and proper citations!

2: Writing your Results

Results should be reported in the same order as they are presented in the Tables and Figures:

1. Describe your study population
 - Demographics, rate of primary outcome
2. Comparison of characteristics of main study groups
3. Main analysis results
 - Reported in the same order as your aims
 - Beginning with unadjusted analyses, followed by covariate-adjusted.
4. Sub-analyses

2: Writing your Results

Results should include the following:

- Table 1: Demographics of the study population, usually stratified by your outcome
 - This should always be included!
 - P-values may be included depending on the journal and your study
- Optional Figure 1: Diagram of study schematic or sample flow chart
- Additional Tables: Comparison of main study groups, regression results, correlation tables, sub-group analyses
- Additional Figures: Forest plots, correlation plots, survival curves

2: Writing your Results

	All (n=77)	OSA (n=41)	No OSA (n=36)	p-value 
Age (years)	16.9 2.0	17.3 2.1	16.4 1.8	0.05
Sex				0.01
Females	53 (69%)	23 (56%)	30 (83%)	
Males	24 (31%)	18 (44%)	6 (17%)	
Hispanic	38 (49%)	20 (49%)	18 (50%)	0.91
Race				0.06
White	36 (47%)	17 (41%)	19 (53%)	
Black	13 (17%)	11 (27%)	2 (5%)	
Other	3 (4%)	2 (5%)	1 (3%)	
Missing	25 (32%)	11 (27%)	14 (39%)	
Insurance				0.49
Public	52 (68%)	30 (73%)	22 (61%)	
Private	22 (29%)	10 (24%)	12 (33%)	
None	3 (4%)	1 (2%)	2 (6%)	
BMI (median [Q1,Q3])	47.0 [42.3, 52.8]	47.7 [43.2, 55.1]	46.5 [42.1, 52.5]	<0.001

2: Writing your Discussion

Be modest and don't overstate your findings.

Know the level of evidence your type of data holds!



AVOID	Instead Use
"it is proved/confirmed"	"there is evidence that"
"we can conclude"	"our data suggest"
"X causes Y" (Cohort Study and below)	"X is associated with Y"
"statistically significant"	"clinically meaningful with $p < 0.05$ "

2: Writing your Discussion

Your discussion should include:

- Summary of key results
- Comparison with stated hypothesis and findings of other studies
- Limitations
 - Acknowledge, but explain how you managed, why they are not so important, or why you can't overcome them.
 - Include statistical limitations!
- Strengths
 - Do NOT exaggerate!
- Implications
 - What is the take-home message? How should it change clinical practice or future research?

2: Writing your Title

- This is your opportunity to attract the reader's attention.
- Keep it informative and concise.
 - Anticoagulation in post-operative atrial fibrillation
 - vs.
 - NOAC vs. Warfarin for post-cardiac surgery atrial fibrillation
- In most cases do not write your title as a question.
- Write for your audience.

2: Writing your Abstract

- Could be written last, when you know what the key message is.
- Focus on key results and take-home message.
- Do not overstate your findings.
- Read the journal's requirements (structured vs unstructured, word length).



2: Writing your Acknowledgments

- Recognize people who do not fit the authorship standards.
- Include those who provided valuable contribution:
 - Intellectual assistance.
 - Writing or editing.
 - Special equipment.
 - Others.



2: Writing your References

- Cite other scientific work on which your manuscript was based.
- Be concise, cite the most relevant and most recent articles.
- The referencing style (MLA, APA, Harvard) and number of references vary, so check the journal's guidelines for submission.
- Avoid excessive self-citations.
- Use referencing software.





2: Authorship

- The ICMJE recommends that authorship be based on the following 4 criteria:
 1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
 2. Drafting the work or revising it critically for important intellectual content; AND
 3. Final approval of the version to be published; AND
 4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
- Also look at your journal's guidance for authorship (if available)



2: ROCS

ROCS should be acknowledged in your manuscripts!

Your ROCS biostatistician should be considered a co-author on all abstracts, posters, presentations, and manuscripts that you receive our support on!

- For posters, please contact us to include our logo if you choose to!
- Ask your ROCS biostatistician for manuscript acknowledgement language and affiliation information!

3: Steps to Getting your Manuscript Published

Ann Surg Oncol (2018) 25:850–855
<https://doi.org/10.1245/s10434-017-6320-6>

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY



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EDITORIAL – MELANOMAS

Steps to Getting Your Manuscript Published in a High-Quality Medical Journal

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3: Steps to Getting your Manuscript Published

Criteria for acceptance of manuscripts:

Significance does it pass the “so what?” test?

Originality of the research and conclusions

Methodologic and statistical validity

Ethical research practices

Impact on clinical practice or on science

Article *citable* by other authors?

Clarity of message and data presentation

Appropriateness or relevance of the subject *for the journal's readership*

3: Steps to Getting your Manuscript Published

Common reasons for manuscript rejections:

General Topic not of sufficient interest to readership, manuscript does not conform to journal requirements, subject not appropriate for journal readership

Methods Retrospective design, case study, small sample size, follow-up too short, or invalid statistics or control

Results Nothing new, data previously presented elsewhere, data not supportive of conclusions, or outcomes worse than those with the current standard of care

Discussion section Poorly written (grammar/content), conclusions vague or not supported by the data, found in another of your manuscripts, or references incomplete

4: Steps to Getting your Manuscript Published

Multi-step process for manuscript acceptance:

Step 1: Confirm authors, select a journal, and read the journal's instructions

Step 2: Prepare the manuscript; ensure that all authors contribute to and approve of the final version

Step 3: Submit the manuscript with all authors' conflicts of interest disclosed in the manuscript

Step 4: Receive the editors' communication and revise the manuscript

Step 5: Resubmit revised manuscript with changes highlighted and a summary letter describing responses to reviewers' comments

4: Authorship

- Author information
 - Primary author/Corresponding author.
 - Co-authors.
 - Correct full names and affiliations.
 - Contact details of the corresponding author.

4: Find a Journal

Choosing a target journal:

- Find a matching journal
- Consider journals that have published similar literature
- Aim for a good impact factor and quartile
- Have backups!

Title	Type	↓ SJR	H index	Total Docs. (2021)	Total Docs. (3years)	Total Refs. (2021)	Total Cites (3years)	Citable Docs. (3years)	Cites / Doc. (2years)	Ref. / Doc. (2021)
1 Ca-A Cancer Journal for Clinicians	journal	56.204 Q1	182	41	121	4006	17959	78	186.75	97.71
2 Nature Reviews Molecular Cell Biology	journal	33.213 Q1	452	111	338	9025	13797	161	38.55	81.31
3 Quarterly Journal of Economics	journal	31.348 Q1	272	48	111	3406	2241	110	16.30	70.96
4 Cell	journal	25.716 Q1	814	517	1727	33658	73240	1639	45.00	65.10
5 MMWR Recommendations and Reports	journal	25.045 Q1	148	124	17	2900	663	17	33.79	23.39
6 New England Journal of Medicine	journal	24.907 Q1	1079	1453	4498	14767	143343	1891	35.41	10.16
7 Nature Medicine	journal	24.161 Q1	576	419	1161	12511	39532	656	35.09	29.86
8 Nature Reviews Materials	journal	23.876 Q1	131	133	259	13153	10691	140	41.92	98.89
9 Proceedings of the IEEE International Conference on Computer Vision	conference and proceedings	23.032	280	468	1077	18276	23631	1075	21.94	39.05

4: Prepare your Manuscript

EVERYTHING A JOURNAL EDITOR AND REVIEWER NEED TO ASSESS YOUR MANUSCRIPT!

JOURNAL SUBMISSION REQUIREMENTS

Your manuscript

+

Other elements

e.g., cover letter, additional files, images, statements of disclosure, etc.

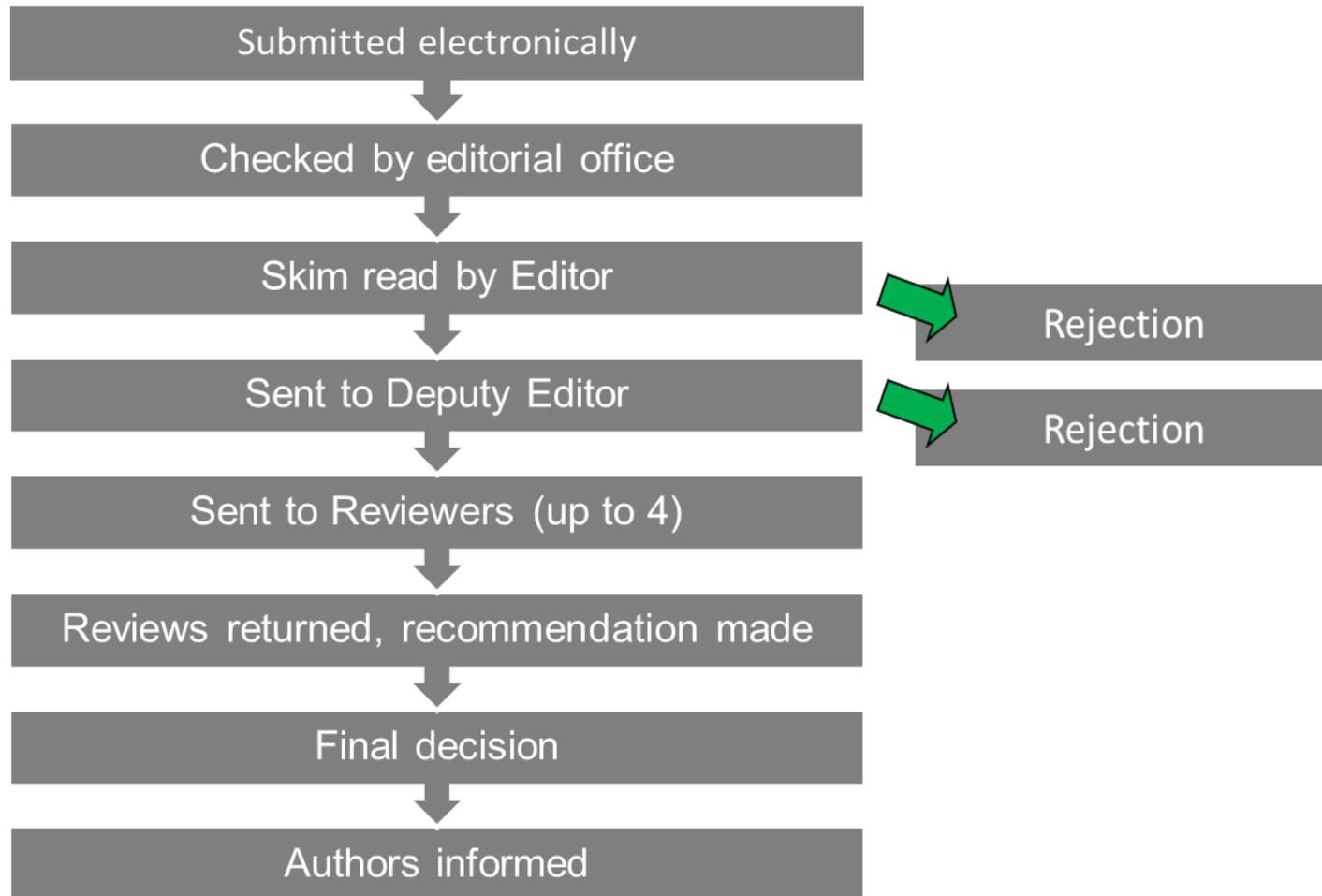
4: Prepare your Manuscript

- Ensure the paper is in the format requested by the journal
 - Word count.
 - Sections and titles.
 - File type.
 - Number of tables and figures (legends, captions, clarity, format).
 - Referencing style.

4: Use Accepted Tools for Reporting

- [CONSORT](#) for randomized trials.
- [STROBE](#) for observational studies.
- [PRISMA](#) for systematic reviews and meta-analyses of clinical trials.

4: Submit your Manuscript



4: Revise your Manuscript

Decisions regarding your manuscript

- Rejection
- Conditional acceptance (revise and resubmit)
- Acceptance (very unlikely)

4: Revise your Manuscript

Your reviewer response should include:

- Thank the reviewers for their time and effort.
- Point-by-point responses.
- Well-reasoned arguments, including relevant citations.
- Specific location in the manuscript of the changes made (e.g., page and line number, table number).

4: Revise your Manuscript

Tips for addressing reviewer feedback:

- Consult with your biostatistician!
 - We can provide language, references, and guidance for responding to any stats-related feedback.
 - Your biostatistician can help you decide what additional analyses are feasible and worthwhile.
- Do not omit any concern raised by the reviewers.
- Pick your battles!

Thank you