How to write and publish a scientific paper (in English)

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Journals of the American Thoracic Society

The *Annals of the American Thoracic Society* provides up-to-date coverage of adult and pediatric critical care, pulmonary, and sleep medicine, with content focused on clinical practice, continuing education of clinical specialists, and the advancement of public health.

**John Hansen-Flaschen, MD**  Philadelphia, Pennsylvania
Journals of the American Thoracic Society

The American Journal of Respiratory Cell and Molecular Biology publishes papers that report significant and original observations in the area of pulmonary biology, including cellular, biochemical, molecular, developmental, genetic, and immunologic studies of lung cells and molecules.

Kenneth B. Adler, PhD  Raleigh, North Carolina
The American Journal of Respiratory and Critical Care Medicine focuses on human biology and disease that contribute to the understanding of pathophysiology and treatment of diseases that affect the respiratory system and critically ill patients.

Jacob Iasha Sznajder, MD  Chicago, Illinois
Number of original research papers submitted to AJRCCM

<table>
<thead>
<tr>
<th>Year</th>
<th>Original research manuscripts (n)</th>
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<tbody>
<tr>
<td>2005</td>
<td>1785</td>
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<tr>
<td>2006</td>
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<td>1633</td>
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<td>2012</td>
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All contributions submitted to AJRCCM

All manuscripts (n)

North American

International

'00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12
“‘I hate writing, I love having written.’”
“The goal of scientific research is publication... A scientific experiment, no matter how spectacular the results is not complete until the results are published.”
Mechanics of writing a paper: do the research

What hypothesis is being tested by the research?
Is it original?
What data do you need to test the hypothesis?
Always think ahead to the paper’s organization
  • Specifically, what figures and tables will be needed?
  • Keep in mind how figures should be constructed (controls, sample order, etc.)
Mechanics of writing a paper: Select the right journal

Define whether the work is primarily clinical or basic research

Review content of recent issues of possible journals and determine its fit

Check publication lag time by comparing date submitted and date accepted

Impact factor (average number of citations 3-year period per number of published articles) is important but should not be the only consideration
Mechanics of writing a paper: Determine the right format

**Read the instructions to authors**

Full-length research articles
- A comprehensive investigation using IMRAD format (Introduction, Methods, Results, Discussion)

Short or brief communications
- Usually limited to one or two tables or figures and roughly 3000 words

Rapid communication
- For ‘hot’ topics, usually a brief communication
Mechanics of writing a paper:
Determine the right format

Read the instructions to authors again
Pay very close attention to details on format and methods for submission
Construct figures and tables **exactly** as detailed in the instructions
Prepare the final illustrations
Mechanics of writing a paper: Determine the authors

Authors should make intellectual contributions, and be able to explain or defend the work

All authors must give consent to authorship

The corresponding author is responsible for communication with the journal

In science, senior authors are usually last

• The first author usually has performed most of the experiments or research and completed the first draft
Mechanics of writing a paper:
Draft abstract, and construct tables, figures, and legends

Begin writing the paper midway through the project before experiments are complete

Drafting the title and abstract can help define contents of the paper

• Decide your key points and write them out

Assemble figures and tables before writing the paper

Lay out figures and tables in order on a table or desk

• Focus on hypotheses that you tested
Mechanics of writing a paper: Draft abstract, and construct tables, figures, and legends

You do not have to present all the experiments you have done

- Sometimes it is best to save some results for another paper

You do not have to present the results in the order in which the experiments were performed

- Tell the best and most clear story that tests your hypothesis
Mechanics of writing a paper: Tips regarding organization of the paper

**Introduction:** The first paragraph is crucial for catching the attention of the audience and for conveying to them the importance of the questions that you have addressed in the paper

- The first few sentences need to capture the reader’s attention
- The last paragraph of the Introduction should be a short summary of what you intended and what you achieved

**Methods:** Write the experimental methods early

**Results:** Subheadings are very useful and help keep the issues separate

- Do not include interpretation of the data
- Data interpretation should be in the Discussion
Mechanics of writing a paper: Avoid plagiarism of others or yourself

**Plagiarism:** To steal and pass off ideas or words of another as one's own
- To use without crediting the source
- To present as new and original an idea or product derived from an existing source

It is important to cite your source, whether published in a book, journal, or on the internet

Accurately cite references

If you are reproducing words exactly as someone else wrote them use “quotes”
Mechanics of writing a paper:
Share draft with senior author then co-authors

Pay attention to critiques, especially if more than one person makes the same suggestion

If possible, ask a colleague who is not an author or an expert to read and review your manuscript

- They will be able to review the paper from another perspective

If the manuscript is in English, find someone fluent in English to read your drafts (especially final draft)
Mechanics of writing a paper: Final draft and submission

Read the instructions to authors again
- Check and double-check the instructions to authors
- Follow all instructions

Pay special attention to required disclosures of conflict of interest
Determine whether a cover letter to the editor is required
Suggest or exclude possible reviewers if that is an option
Then you wait... and hope
Publication lag time for the AJRCCM, AJRCMB, and Annals
Mechanics of writing a paper: Handling critiques

Most articles are not accepted on first submission

Determine whether you can address reviewers comments, and if given the option, submit a revised manuscript

Write detailed response to the reviewers that addresses every point raised

Follow instructions for tracking changes on the revised manuscript

If article is rejected and you feel that it was not adequately reviewed, consider an appeal to the editor

• Some journals will consider appeals but others will not

If the editor is not willing to reconsider, select another journal but keep reviewers’ comments in mind for the revision
Mechanics of writing a paper: Reasons why manuscripts were rejected from AJRCCM

Case studies that do not present highly novel insights into the pathophysiology, diagnosis, or treatment of pulmonary or critical care disorders

Too descriptive

Lack of novelty

Only of limited interest (i.e., results do not have generalizable implications)

The manuscript was poorly written

- Review by fluent English speaker can be critical for acceptance
Mechanics of writing a paper:
Factors that increase likelihood of acceptance in AJRCCM

- Novel hypothesis and data that provide new insights into disease pathogenesis, diagnosis, or treatment
- Translational or human study with meaningful and clinically relevant endpoints
Mechanics of writing a paper: After your manuscript is accepted

- Respond to specific queries
- Carefully proofread the page (galley) proofs
- You may only have only 48 hours to respond
- Limit changes to answers to editors' questions and minor modifications
  - If any major changes are required, you will need to get permission from the editor