How to be a good manuscript reviewer

Pedro Weisleder MD PhD
Acknowledgements

Portions of the presentation come from my colleague
Dr. Steve Roach, Editor-in-Chief
Annals of the Child Neurology Society
Shameless act of self-promotion ahead
Why me?

• Things that make my wife and children proud
  • I published my first paper in 1989
First paper published 1989


Figure 1. Performance/Intensity functions of Spanish-language word recognition ability lists.
Why me?

• Things that make my wife and children proud
  • Associate Editor of *Journal of Child Neurology*: 2010-2015
  • Associate Editor of *Pediatric Neurology*: 2015-2020
  • Editor-in-Chief of *Seminars in Pediatric Neurology*: 2020-
  • Edited 2 books
    
    *Manual of Pediatric Neurology*
    
    *Current Topics in Pediatric Epilepsy*
A very short history of “Peer review” 17th to 20th century
A very short history of “Peer review” 17th to 20th century

• The first scientific journal was launched in 1665
  • Philosophical Transactions of The Royal Society

https://mitcommlab.mit.edu/broad/commkit/peer-review-a-historical-perspective/
A very short history of “Peer review” 17th to 20th century

• Before the 20th century scientific discoveries were shared via
  • Short articles in newspapers
  • Personal letters - *correspondence networks*
  • Presentations
  • Books

https://mitcommlab.mit.edu/broad/commkit/peer-review-a-historical-perspective/

The anatomy lesson of Dr. Nicolaes Tulp, 1632, Rembrandt
A very short history of “Peer review” 1920s to 1970s

- As interest in science grew Editors made the decisions
  - Problem: they published their friends’ work
- As science became more egalitarian Editors couldn’t keep up
  - A star was born: The Peer Review System
    - *JAMA* and *Science*: 1940s
    - *The Lancet* 1976

[https://mitcommlab.mit.edu/broad/commkit/peer-review-a-historical-perspective/](https://mitcommlab.mit.edu/broad/commkit/peer-review-a-historical-perspective/)
A very short history of “Peer review” 1970s to 1990s

- Editors selected reviewers from colleagues
- The manuscript arrived in the mail – no choice!
- The process would take many months
- Everything was done “by hand”

https://mitcommlab.mit.edu/broad/commkit/peer-review-a-historical-perspective/
And then came computers and email

- Proliferation of journals
- Articles became longer
- Reviewers were asked to review
- Speed of the review process increased
- Speed of the publication process increased

https://mitcommlab.mit.edu/broad/commkit/peer-review-a-historical-perspective/
Why should you accept to review a manuscript?

• You are the expert!
  • Content expert reviewer vs general knowledge reviewer
• Skillful peer reviews represent a valuable contribution to the field
• Your own manuscript preparation skills will improve
• Learn new concepts
Other benefits of the peer-review system

• Helps you read published articles more skillfully
• Your own manuscript preparation skills will improve
• Creates an opportunity for professional advancement
  • Evidence of your professional reputation for promotion
• Could lead to journal editorial board membership
Structure of Peer Review

Single-blind
- This is the most common approach
- Usually, two reviewers per manuscript
Structure of Peer Review

Double-blind
- Manuscripts stripped of authors’ names and affiliations
- Becoming the standard of practice

JADA uses the double-blind system
Structure of Peer Review

Unblinded
- Reviewers’ names are printed as part of the paper
- Concern that the reviewers will “pull their punches”
- Likely would make it more difficult to find willing reviewers
Manuscript Review: expectations

• Requests to score specific parameters
  • The science – you are the expert!
  • Manuscript length
  • Figures and tables
  • Ranking of publication priority
• A free-field section allowing comments to the authors
• A free-field section for private comments to the editors
Manuscript Review: expectations

• An answer to the critical question
  • Accept
  • Revise
  • Reject
Overarching goal of the peer-review system

Improve the article
How to improve the article

• Is the paper a “good fit” for the journal?
• Is the purpose of the paper clearly stated?
• Are the material and methods clearly described?
• Are the results clearly reported?
• Are the conclusions supported by the data?
How to improve the article

• Is there novelty in the findings?
• Are tables and figures clear?
• Can text be better reported in a table or a figure?
• Have key references been cited?
• Is the manuscript clearly written?
• Are potential conflicts of interest reported?
What do editors value in a review?

- People who accept review invitations
  - If you can’t do it, explain why and suggest another person
An editor’s plea

Please reply

Accept or decline, but please reply
What do editors value in a review?

- Timely submission of review comments
  - Don’t accept an invitation and then fail to complete it
  - OK to ask a journal for additional time
- Comments with realistic manuscript suggestions
- Reasonably tactful comments for the authors
Getting your hands dirty

- Start with a one sentence summary of the manuscript
- Don’t use words such as
  - Criticism
  - Problem
  - Trash
- Use words such as
  - Comment
  - Question
  - Suggestion
Getting your hands dirty

- Organize your comments as a numbered list
- If possible, add comments on a Word file and upload as attachment
- Provide actionable suggestions for improvement
Ethical concerns

• Research ethics
• Patient confidentiality
• Conflicts of interest
• Duplicate publication
• Ghost authors
• Plagiarism
Major journals use plagiarism detection programs

Introduction

Pyridoxine-dependent epilepsy (PDE) is an autosomal-recessive (OMIM 261300) disorder characterized by the onset of generalized convulsions in the newborn period that is resistant to anti-epileptic drugs (AEDs) but responsive to pharmacologic amounts of pyridoxine. The prevalence is estimated between 1 per 276,000 and 1 per 700,000 births. Clinical features have been described in patients with classical PDE, including abnormal fetal movements, features suggestive of perinatal hypoxic-ischemic injury, irritability, abnormal cry, exaggerated startle response, dystonic movements, respiratory distress, abdominal distension, bilious vomiting, hepatomegaly, hypothermia, shock, and acidosis. Conventionally, four clinical criteria are required for the diagnosis: seizures resistant to AED; good response to pyridoxine, complete seizure control on pyridoxine monotherapy, and seizure recurrence after pyridoxine withdrawal. The responsible gene antioquin (ALDH7A1) encoding alpha-aminoadipic semialdehyde dehydrogenase (alpha-4A5A dehydrogenase) in the propionic acid pathway of pyridoxal catalysis is located on chromosome 6p31. Antioquin deficiency causes seizures, because it leads to secondary deficiency of pyridoxal-5-phosphate which is essential for the cofactor in the metabolism of several amino acids and neurotransmitters. We present the clinical and molecular genetic findings of two patients with pyridoxine dependent epilepsy carrying the same mutation in the ALDH7A1 gene.

Pyridoxine-dependent epilepsy in Turkey: Two cases and review of the literature

<table>
<thead>
<tr>
<th>PRIMARY SOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
</tbody>
</table>
How about Artificial Intelligence?

NIH

“NIH scientific peer reviewers are prohibited from using natural language processors, large language models, or other generative AI technologies for analyzing and formulating peer review critiques for grant applications and R&D contract proposals.”*

Getting your hands dirty

- Provide actionable suggestions for improvement
- Document your observations to support your recommendation
- Be kind remember when you submitted your first paper
- Only make publication recommendations to the Editor
Private comments to the Editor

• Include broad concerns
• The editor may or may not share your comments
• The editor may “sanitize” your comments
• This is where you can make less tactful comments
Less tactful private comments to the Editor

Number 5

The author should sit in a quiet room and turn off his cell phone. Then read the text several times and see how some of the sentences are un-finished and need revisions.
Less tactful private comments to the Editor

Number 4

This manuscript is well-written, making its lack of importance even more apparent
My kids make me sleep deprived, but I checked [the references] several times, and I don't think I am hallucinating.
Less tactful private comments to the Editor

Number 2

There is much less here than meets the eye
Less tactful private comments to the Editor

Number 1

It’s wonderful to read a truly great paper, but this is not one of those
Setting your limits

• It’s not your responsibility to correct the grammar
  • You can make general comments
• You are not expected to check every reference
  • Scan for accuracy
• Based on your comfort ask for a statistician’s review
• You are not expected to accept every manuscript
Be mindful of your conflicts and biases*

• Be mindful of your own potential conflicts
• It is best not to review manuscripts written by
  • Close colleagues
  • Trainees
  • Mentors
  • Individuals from your own institution
• Your financial conflicts
• Talk to the editor

*Committee on Publication Ethics https://publicationethics.org
Reviewer feedback

• The editor should notify you of the publication decision
• Provide a copy of your and the other reviewers’ comments
• These comments offer an opportunity to gauge your skills
  • Did the other reviewers’ raise valid points that you didn’t notice?
  • Did the reviewers reach a similar recommendation even if for different reasons?
• A publication decision that is counter to your recommendation does not mean that your assessment was incorrect
What’s the big deal?

Retraction Watch: https://retractionwatch.com
It’s everyone’s responsibility
It’s everyone’s responsibility

A genomic strategy to refine prognosis in early-stage non-small-cell lung cancer

Anil Potti, Siyuan Mukherjee, Rebecca Petersen, Holly K Dressman, Andrea Bled, Jason Koontz, Robert Kratzke, Mark A Watson, Michael Kelley, Geoffrey S Ginsburg, Mike West, David H Harpole Jr, Joseph R Nevis

Affiliations + expand
PMID: 16899777 DOI: 10.1056/NEJMoa060467

Free article

Erratum in

Retraction in

https://en.wikipedia.org/wiki/Anil_Potti#cite_note-61
It’s everyone’s responsibility
Parting words

• Don’t share the manuscript
• Don’t contact the authors
• Don’t contact other reviewers
• Don’t start working on a similar project
Parting words

• Acceptable to work with a junior colleague, but ask
• If above, do your own review and submit jointly
• Beware of “predatory journals”
  • Beall’s list of potential predatory journals
  • https://beallslist.net/
References

- History:
  - https://mitcommlab.mit.edu/broad/commkit/peer-review-a-historical-perspective/
  - https://blog.f1000.com/2020/01/31/a-brief-history-of-peer-review/
- Best practices:
  - https://mitcommlab.mit.edu/broad/commkit/peer-review/
- Anil Potti
  - https://en.wikipedia.org/wiki/Anil_Potti#cite_note-61
- Committee on Publication Ethics: https://publicationethics.org
- Retraction Watch: https://retractionwatch.com
- Beall’s list of potential predatory journals: https://beallslist.net/
Thank you for your attention
Questions?