

How To Review a Journal Article

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Why?

- “Fundamental part of the scientific world”
- Decider of what constitutes a quality submission-know the journal and have breadth of knowledge and objectivity
- Reviewer must be passionate and have the time; we do it for free
- What is your role?
 - To decide if the article merits publication
 - To improve the manuscript by constructive critique

What are you looking for

- Timely, relevant, evidence based
- Well designed and written
- Followed directions
- Clear, logical and easy to read
- Accepting of reviewers suggestions
- Succinct
- Audience values

Articles that are rejected

- Problem statement is insufficient or clinical question is not valid
- Technically doomed: data is incomplete, suboptimal measure was used, sample population too small, or biased
- Incomplete or results are over-interpreted
- Extension of prior paper (often from same authors)
- Text is grammatically flawed
- Wrong audience, “not interested”

Publication Merit-what are the options?

- Accept outright
 - Rare, most manuscripts need something
- Accept with revision
 - Assuming authors address queries, critique, will be accepted
- Sometimes conditional acceptance by editor
 - Usually some issues are necessary to address
- Reject with request for resubmission
 - Worth second look; always undergoes repeat formal review
- Reject
 - Poor science, without value, redundant or duplicate, biased, too esoteric
 - Could be great paper but wrong audience

Approaches to review

- Is the article of interest to journal readers
- Strengths and weaknesses
- Summary-consider the overall aim
 - Did they state what they identified in the work?
- Critique
 - Summarizes article and analyzes each section
- Automated templates accompany each request
- Usually 2-3 reviewers-you can access the other reviewers' comments at the point an editor's decision is finalized

The Basics

- What type of manuscript is forwarded to you?
 - Original research, hypothesis driven: clinical study or lab based
 - Clinical trials
 - Brief report, clinical case studies
 - Letter to editor, perspective, opinion, commentary
 - Review articles
- Is there bias (on either side)?
- Do you have sufficient expertise to review?
- Do you have time?

It's not just you: science papers are getting harder to read

Papers from 2015 are a tougher read than some from the nineteenth century — and the problem isn't just about words, says Philip Ball.

- Focus on correct grammar, syntax, spelling
- Often jargon heavy
- Abbreviations at first “call out”
- Avoid unconventional abbreviations
- As a reviewer, point out if there are few errors; say “multiple errors of grammar and syntax” if many
 - Often a writer where English is not first language-suggest review by colleague who can assist

How to review

- Most do a quick survey first
 - Read abstract
 - Skim the article without taking notes
 - Read for “big picture”
 - Note terms that require definition; look up if you don’t know
- Re-read for detail
- Develop questions
 - Why, what intent
 - Is article relevant to journal readers
 - Does the article answer an important clinical question?

Provenzale and Stanley, AJR 2005

<http://twp.duke.edu/writing-studio>

Review

- Consider the existing body of knowledge and scientific merit
- Briefly summarize
- General comments
- Section review
 - Title
 - Abstract
 - Introduction
 - M/M
 - Results
 - Discussion/conclusions
 - Tables, figures, etc
 - References
- Summarize why manuscript should be accepted/revised/rejected

Title

- Reflects purpose and findings
- Generally no more than 12 words
- Declarative, descriptive, interrogative
 - A 3 month educational program to reduce inappropriate GAS testing
 - The impact of an educational program on inappropriate GAS testing
 - Does education improve performance in test ordering for GAS?
- Avoid abbreviations
- Suggest title change if puns, humor, or irony used

Titles with humor are less cited

- “Guess Who’s Not Coming to Dinner? Evaluating Online Restaurant Reservations for Disease Surveillance”
- Swedish scientists like to include reference to certain musicians-Dylan seems to be a favorite
 - Nitric Oxide and Inflammation: The Answer is Blowing in the Wind” (about farts)
 - “Like a Rolling Histone”
 - “Knockin’ on Pollen’s Door: Live Cell Imaging of Early Polarization Events in Germinating Arabidopsis Pollen.”

Abstract

- Usually is the last item written to highlight key points of study
- Consider if it can stand alone-no discrepancies between body of paper and abstract
- Consider word limits-generally between 120 and 250 words-though editor should oversight
- Ensure it includes well articulated purpose and hypothesis
- Concise materials/methods
- Key results
- Conclusions

Introduction

- 4 goals: establish knowledge in field, summarize prior work, set the stage, introduce present work stating purpose and outlining design
 - Does it explain background and why the authors undertook study?
 - Includes rationale illustrating importance of problem, clinical question and failure of prior work to adequately address
 - Should set the stage by defining goals/aims of the study
 - Introduces present work and design and includes unique terms used
 - Referenced

Materials and Methods

- This is the blueprint for how the study was performed
- Enough information that another investigator could replicate
- Outline of stats with enough detail
 - Some journals offer statistical oversight if beyond reviewers' expertise
- Includes definitions of patient groups, techniques, outcome measures, study endpoints
 - Patient groups include demographics, comorbidities, disease definitions
 - Look at sample size and was it representative of the population?
 - Make sure numbers add up
 - Were there controls, variables, or other factors that could impact outcome?
 - Look for IRB approval
 - Look for inclusion of technique specifics
 - How were complications categorized?

Results

- Read this section more than once
- Order should parallel the M/M
- May use section headings if data is complex
- Look for guidelines for figures/tables
 - Try and interpret before reading caption and details
 - Many have trouble limiting and consider whether each is necessary
 - Look at figure quality and legends
 - Tables should summarize complex data to add readability
 - Not necessary if text suffices
 - Should not be a repeat of text

Discussion

- Was hypothesis verified?
- What questions were answered?
- Are findings in line with prior studies?
- Is medical literature review inclusive of only those articles relevant to the study?
- Limitations
- Concluding paragraph

References

- Brief review can find spelling/author errors
- Do they follow journal citation format?
 - Editor should oversight
- Do they support claims in text?
- Is evidence cited accurately?
- Are they missing a recent major addition to the literature?
 - Add when needed

Drafting your summary: Common Sense

- Describe in your words and distill down to “scientific essence”
- Include key points
- When you write your draft, write then refer back for details
 - Purpose, questions asked, did study address questions, major findings, any surprises, remaining questions
 - Use past tense in your review
 - First paragraph introduces background and purpose, next explains methods and then results, lastly states what the author of the study learned
- Be polite-no insults, sarcasm
- There is a way to communicate confidentially to the editor
- You also communicate to “the authors” but avoid “you” and refer to “the manuscript” or “the authors”

One approach to evaluation

- Research question clearly defined and answered?
- Overall design adequate, relevant
- Participants described with conditions defined
- Methods described, any ethical issues?
- Results answered the question, validated?
- Discussion and conclusions warranted? Clearly messaged?
- References up to date; omissions?
- 7 scores of 1-5
- Calculation of final scores will appear as excellent if it score between 20-30 points, as average if between 10-20 and as poor if <10 points

Reading reviews and re-reviews

- Accepting suggestions of reviewers?
- Response thoughtful if disagreement
- Know that short, concise articles are easier to read-you can always add material if needed

If you are trying to get your manuscript published...

- Know the audience for the journal to which you are submitting
- Read the “instructions for authors” carefully, understand type of manuscripts accepted, follow directions
- Know the typical layout of articles within that journal (e.g. 3 paragraph intro)
- Readability is key
- Spotlight the **importance**, how it is **unique** and **what it adds** to the literature
 - In general avoid “this is the first”-hard to confirm, may not add to worth, sometimes absurd
 - Why should the reader care about what you are describing
- Focus intro on background and **clear statement of purpose**
- Focus discussion on why conclusions and purpose are **valuable**