

Helpful Advice or Disparaging Critic?

Your Role as a Peer Reviewer for Manuscripts in
Veterinary Pathology and *Toxicologic Pathology*



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Major Goals of the Review Process



- To provide topic-specific expertise in evaluation of manuscripts
- To indicate the strengths and weaknesses of the paper in sufficient detail to help the author make revisions, or to understand reasons for rejection
- To communicate this same information to the Associate Editor so that he/she will be able to make an appropriate decision
 - minor revision, major revision, rejection, acceptance
- Respond in a timely manner: this is very important to editors and authors.

Scientific validity

Communication

Significance

Reviewers should assess manuscripts for validity of the science, effectiveness in communication of the findings, and for the significance or impact of the work. These themes are repeated in the following slides.

Outline



- How do I become a reviewer?
- Ethics
- Before you begin the review
- Assessing the elements of the manuscript
 - Title, keywords, abstract
 - Introduction
 - Materials and methods
 - Results
 - Tables and figures
 - Discussion
 - References
- Constructing your review
- Final points

How do I Become a Reviewer?



- Import roles of peer reviewers →
- Define the narrow topic in which you have specific expertise
- Tell us that you wish to review manuscripts (by a simple email message to the editor). ↘
- Establish your credibility. Eg. have you published in the area?

Peer review is a critical part of publishing advances in science. The two goals are a fair evaluation of the merit of the work, and to provide a critique that improves the manuscript. The corollary is that everyone should offer their expertise, insights and time as a peer reviewer, mainly because the system of scientific publishing depends on everyone contributing to this collective effort. It also brings benefits to you personally because being a peer reviewer is the best method to develop skill in critical analysis of study design and interpretation.

Example: “Anatomic pathology, infectious disease, neoplasia, inflammation, neuropathology, ocular pathology, zoo and wildlife pathology, domestic animals, laboratory animals”. This is much too broad, in defining your areas of interest.

Ethics

- **Anonymity:** For both *Tox Pathol* and *Vet Pathol*, editors take much care to maintain anonymity of the reviewers, to ensure that critical feedback can be provided when necessary.

- **Ethical responsibilities of peer reviewers.**

We follow the guidelines of the Committee on Publication Ethics (COPE), and use judgment in applying these guidelines to specific cases on an individual basis. Failure to follow these ethical guidelines is a serious violation of trust in an important element of science.

- **Confidentiality**

- **Content of manuscripts must not be communicated to others.** COPE: “Respect the confidentiality of peer review and not reveal any details of a manuscript or its review, during or after the peer-review process, beyond those that are released by the journal ”
- **Reviewers must not make personal use of unpublished information.** COPE: “Not use information obtained during the peer-review process for their own or any other person’s or organization’s advantage, or to disadvantage or discredit others ”

- **Might you have a conflict of interest or a bias?**

- Potential conflicts of interest include work at the same institution, current collaborative research, co-authorship in the past 5 years, close personal relationships, or competing business or academic relationships with any of the authors of the manuscript. The spirit is to avoid positive or negative biases that interfere with fair evaluation of the manuscript. These may or may not disqualify you as a reviewer; let the Associate Editor know, and ask for advice.

- **It is a serious violation of ethics to delay or reject manuscripts of competitors in order to benefit your own work.**

Before You Begin the Review Process



- Can you review and verify all aspects of the paper?
 - If not, let the Associate Editor know immediately, so you can continue your review but another reviewer can be recruited to cover those areas. Notifying the editor early (before you complete your review) really helps keep the review process moving.
- Can you complete the review in a timely manner, and do it well?
- Does English usage need improvement?
 - Is it so bad that it hinders your ability to review? If so, let the Associate Editor know, as this will need to be improved by the authors before continuing the review process on a revised manuscript.
- Has the work been previously published?
 - Reviewers should check that the same or substantially similar work has not been previously published (i.e. duplicate publication) A PubMed search on the author names accomplishes this well. Posters or platform presentations at conferences do not usually constitute duplicate publication.
 - Reviewers should assess whether the findings are novel, relative to what has already been published by other authors.

Title, Keywords, Abstract



- Will interested readers find the article when searching PubMed & Google?
- Do the title, keywords and abstract effectively communicate the manuscript as a whole?

Title



- Is the title concise, specific and informative?
- Concise titles have more impact. Aim for ≤ 150 characters or 12 words
- Descriptive titles are preferred. *Distinguishing intestinal lymphoma from inflammatory bowel disease in canine duodenal endoscopic biopsy samples.*
- Avoid:
 - Overly general titles. *Histopathology of canine duodenal biopsies.*
 - Questions. *Does epitheliotropism distinguish intestinal lymphoma from inflammatory bowel disease in canine duodenal endoscopic biopsy samples?*

Is the Title Concise, Direct and Specific?



Too long and complex: “Correlating histologic and innate immune gene expression findings based on quantitative RT-PCR in sheep with paratuberculosis caused by *Mycobacterium avium* ssp paratuberculosis”

Better: “Relationship between histologic lesions and innate immune gene expression in ovine paratuberculosis”

Keywords



- Have the most salient keywords been used?
 - Use specific rather than general keywords
 - Include the key topics presented
 - Include alternative disease names
(eg. Johne's disease, paratuberculosis)

Abstract



- The abstract should not simply indicate the topic being studied. Instead, the abstract should be a detailed summary of the main points of the article.
 - Study rationale and objective/hypothesis
 - Study design and methods, in brief
 - Primary results, in some detail
 - Main conclusions and implications

Introduction



- Background, rationale and objectives/hypotheses/questions are the main elements of most Introductions.
- Provides the reader with the necessary **background** to understand the study
 - An exhaustive review of the literature is not necessary or appropriate
 - Is it coherent and readable?
- Should present a **rationale** or argument for the conduct of the study
- Are **objectives/hypotheses/questions** stated clearly and **specifically**? Studies should be based on specific objectives/hypotheses/questions, at the conception of the study (not artificially at the stage of writing the paper). Focus the paper on these objectives/hypotheses/questions, and address them in the discussion.

Materials and Methods—Overview



- Review thoroughly to ensure that the findings are **valid** and described in a way that they are **reproducible** by other knowledgeable investigators.
- ARRIVE and ILAR guidelines: a friend for authors, reviewers and editors. These guidelines are a very helpful checklist, to ensure important information was not accidentally omitted from the manuscript.
ARRIVE: <https://www.nc3rs.org.uk/arrive-guidelines> ILAR: <http://dels.nas.edu/Report/Guidance-Description-Animal/13241>
- No results should be presented in this section
- Confirm that animal care is adequately described and ethical requirements are followed. Who approved?
- Are the number of animals and other information consistent across methods, results, tables, figures?

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Materials and Methods—Details



- Assess the study design, methodology, assay validation & controls. It is important that reviewers carefully assess the study design and methodology. As appropriate, this may include:
 - Sample size: number per group; number of cases
 - How were cases obtained? Inclusion/exclusion criteria.
 - Allocation to treatment groups.
 - Blinding.
 - Assay validation, negative and positive controls
 - Were in vitro experiments replicated?
 - Is the statistical analysis appropriate?

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Results



- Are the results presented clearly and concisely?
- Could complex findings be shown more clearly in graphs, tables or figures?
- Should any data be moved to Supplemental Materials?
- Should the authors make the raw data available as Supplemental Materials?
- Limit the results to the observed data. Avoid:
 - Unnecessary reiteration of the methodology
 - Inferences, interpretations, or conclusions
- If necessary, reviewers can suggest additional studies that should be done to fill gaps, but these must be **justifiable and specific**

Tables and Figures



- Should improve the readability of the manuscript by presenting details of the findings without repeating the text
- Should be clear and concise
- These should “stand alone”, allowing the reader to understand the figure without reading the text
- Determine if any of the tables or figures can be supplemental data to improve readability and save valuable pages

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Figures and legends



- Review all figures for scientific content. These are often reviewed last, yet are critically important for our journal.
 - Do the legends adequately describe the figures?
 - Are the findings described in the legend clearly visible in the figure?
 - Are the figures interpreted correctly?
 - The Photo Editors will evaluate the figure size, resolution and quality.
 - Are the data consistent across the text, tables, and figures?
- **Scale bars and magnification.** Scale bars are **NOT** included on photomicrographs, except when necessary to show the size of a structure (eg. nematodes) or for electron micrographs. Do **NOT** include magnifications (eg. 20X).

Elements of the Discussion



- Explain and interpret the study findings
- Justify controversial aspects of the methodology
- Acknowledge and discuss the limitations
- Discuss plausible alternative explanations
- Do the study findings fulfill the objectives or hypotheses stated in the introduction?
- Describe the implications and applications of the findings

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Critique of the Discussion



- Are the interpretations of the findings adequately justified by the data, or is there excessive speculation based on inadequate data?
- Are the conclusions stated clearly, and in a way that will be useful for readers?
- Is the discussion well-organized, does the writing flow well, and are the ideas clear and compelling?

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References



- Do the references adequately provide the evidence on which key statements are based?
- An exhaustive list of references is not required

The opening paragraph of your review



- State the title of the paper
- Describe your overall opinion of the paper
 - **Usefulness**: what contribution will this paper make?
 - **Novelty**: does it provide new information?
 - Does it contradict existing knowledge?
- **Highlight strengths and weaknesses** of the work
- If there are any serious concerns, these should be specifically described at the end of this paragraph
- Most comments should be provided as “Comments to the Author”. If necessary, “Confidential Comments to Editor” may also be added, including your opinion on whether the paper should be published or not.

How to be a great reviewer



- Maintain a professional and respectful tone throughout the review
- Be **objective, constructive, and specific**
- Provide feedback that improves the **scientific merit** of the manuscript, and the **communication** of that science
- An opinion on the strengths and weaknesses of the manuscript is useful
 - Do not indicate your opinion on the publishability of the manuscript in “Comments to the Author”

Final Points



- Manuscripts with uncorrectable fatal flaws will warrant a shorter review
 - Flawed design, inappropriate methods, etc.
- For comments on minor spelling, grammar or publication style errors, please state that “The manuscript contains numerous spelling and grammatical errors” or “References do not follow journal style guidelines”, etc. We do not expect that reviewers will make these edits.

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Sources of Information



- SAGE how to review articles
<https://us.sagepub.com/en-us/nam/how-to-review-articles>
- Cantor GH et al. Veterinary pathology and peer review. *Veterinary Pathology*. 2009 Mar; 46:173-5.
- ARRIVE and ILAR guidelines for animal studies
<https://www.nc3rs.org.uk/arrive-guidelines>
<http://dels.nas.edu/Report/Guidance-Description-Animal/13241>
- COPE peer review guidelines (Committee on Publication Ethics)
<http://publicationethics.org/files/u7140/Peer%20review%20guidelines.pdf>
- AMA Manual of style <http://www.amamanualofstyle.com>
- APA Manual of style <http://www.apastyle.org>