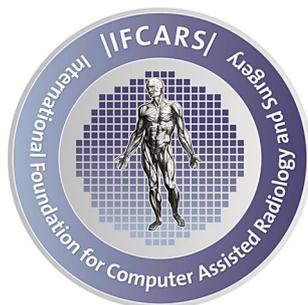


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Preface



Publishing, Reviewing and Editing Process of Extended Abstracts and Original Articles

Two of the primary functions of the International Foundation for Computer Assisted Radiology and Surgery (IFCARS) is the organization and presentation of the International Journal of Computer Assisted Radiology and Surgery (IJCARS) and the annual CARS Congress and Exhibition. Authors from all over the world submit abstracts and articles to the Journal and the Congress, so that the results of their research and studies may be shared with a larger community. For the reasons enumerated in this communication, IFCARS will be inaugurating a new activity at the 2018 CARS Congress: a Journal Club that will be organized to explore important issues relating to the process of reviewing submitted research.

The publishing, reviewing and editing process (PREP) of extended abstracts and original articles implies that a highly professional job is being carried out by all parties involved. Authors, who submit original articles and/or extended abstracts, reviewers who voluntarily agree to review and give their very valuable time to this endeavor and editors, who have signed contracts with publishers to ascertain that the result of the PREP contributes towards a high quality archival documentation of human knowledge.

Even though the three parties involved in this very demanding professional activity share the common goal of enriching human knowledge, no licensing or board exam related to their respective qualifications for being able to do so, is required. Typically, members of each party strive for and impact their learning curve through trial and error only. Whatever comes out of the PREP, however, readers rightfully expect that publications in scientific/medical journals such as IJCARS, fulfill the highest professional standard possible. This implies, in these days more than ever before, that a rigorous search and screening for sustainable truths and verified facts has preceded any publication.

Perhaps the observation made above may not be applicable to all authors, reviewers and editors alike, nevertheless, in order to assist all three parties involved in the PREP, some organizations offer guidelines and rules which are recommended by publishers as a reference for writing, reviewing and editing. The most important organizations for biomedical journals providing this guidance are:

- Council of Science Editors (CSE)
- Committee on Publication Ethics (COPE)
- International Committee of Medical Journal Editors (ICMJE)
- Directory of Open Access Journals (DOAJ)
- Open Access Scholarly Publishers Association (OASPA)
- World Association of Medical Editors (WAME)

In addition or as a complement, some editors, reviewers and authors of medical journals, including those involved in IJCARS, built up their own list of points to be observed in the PREP (I have compiled some 30+ items of such a list over a lengthy period of time as an author, reviewer and editor, see below). For the benefit of all actors involved in the PREP, there is a need to expose and exchange views on questions and answers relating to the PREP. In order to provide a platform for such a forum, the program of CARS 2018 includes, for the first time, a “Journal Club” which is open to all interested parties in the PREP.

A possible checklist of frequent issues for authors, reviewers and editors to consider for extended abstracts and original articles in the PREP for a peer-reviewed journal such as IJCARS, could be (not in order of importance):

| Positive attributes | Potential pitfalls |
|--|--|
| 1. Appropriate scope for IJCARS | 1. Out of scope of IJCARS |
| 2. Unique or substantial/transformational innovation; Innovative Clinical Investigations (ICI) | 2. No unique or substantial/transformational innovation |
| 3. Topic of wide appeal or application | 3. Only of clinical and/or radiological/surgical relevance |
| 4. Research at appropriate stage of development | 4. Relatively early stage of development; Submission has the status of a “PROPOSED” work |
| 5. Application/evaluation of standard or open-source software/systems | 5. Proprietary; commercial product oriented |
| 6. Technology—general, widespread, available | 6. Technical, too specific |

| | |
|--|--|
| 7. Appropriate content and organization | 7. Overall length of manuscript, figures, tables, references, keywords, citations, captions, etc. are inappropriate; Inappropriate structure and/or sections in manuscript |
| 8. Abstract or article is well-written and easily understood | 8. English language issues and style of writing |

| Review process | Major problems |
|--|--|
| 1. arXiv issues | 1. Authorship issues |
| 2. Review article issues | 2. Salami slicing/partitioning of publications |
| 3. Corrections in production and in proof reading | 3. Double publication |
| 4. Title and/or abstract need revision | 4. Re-submission of rejected manuscript |
| 5. Authors do not respond to reviewers comments | 5. Under consideration for publication elsewhere |
| 6. Biases and de-biasing | 6. Fabricated data and enquiries |
| 7. Statistical methods and their application domains | 7. Plagiarism in manuscript |
| –FOL, deduction, abduction and induction | |
| –Frequency and Bayesian statistics | |
| –V ² E and statistical significance | |

This relatively specific list may easily be augmented by other more overarching considerations such as:

Overarching considerations

- Conflict of interest
- Conflicting reviews
- Confidentiality issues
- Bibliometrics (e.g. citation indices, impact factor)
- Populistic and/or political correctness comments
- Editorial process structure and timing issues,
- Predatory Journals
- Retraction watch

There are a number of international initiatives which have made it their objective to assist in the reporting and assessment activities of innovative health care technologies, similar to those which are being developed in the context of CARS. These initiatives also try to provide frameworks (e.g. protocol design and validation methods) for assisting investigators and authors in their publication endeavors. One of the main organization which falls into this category is the IDEAL Collaboration [1].

The IDEAL Collaboration is an UK initiative which developed a framework for the different stages in innovation in surgery or other interventional procedures defined as Idea, Development, Exploration, Assessment and Long-term study (IDEAL). The purpose of IDEAL is to improve the quality of research by emphasizing on appropriate

methods, transparency of data and rigorous reporting of outcomes. Applying a formal method such as IDEAL to IJCARS publishing activities, the Idea, Development and Exploration stages in IDEAL (see Table 1) seem to provide the right framework for classifying manuscripts into the categories of work-in-progress, original technical innovations and innovative clinical investigations, respectively.

Table 1 IDEAL stages (courtesy Peter McCulloch, University of Oxford) and activities marked (within the circle) for IJCARS Extended Abstracts, Original Articles and Innovative Clinical Investigations

| IDEA (Stage 1) | DEVELOPMENT (2A) | EXPLORATION (2B) | ASSESSMENT (3) | LONG TERM STUDY (4) |
|---|--|---|--|---|
| Initial report | "Tinkering" (rapid iterative modification) | Technique now more stable | Gaining wide acceptance | Monitoring late and rare problems, changes in use & quality of surgical performance |
| Innovation may be planned, accidental or forced | Small experience from one centre | Replication by others | Considered as possible replacement for current treatment | |
| Focus on explanation and description | Focus on technical details and feasibility | Focus on adverse effects and potential benefits | Comparison against current best practice (RCT if possible) | |
| | | Learning curves important | | |
| | | Definition and quality parameters developed | | |

[1] IDEAL framework for surgical innovation 1: the idea and development stages BMJ 2013; 346 doi: <https://doi.org/10.1136/bmj.f3012> (Published 18 June 2013) Cite this as: BMJ 2013; 346: f3012

For being publishable in IJCARS, the 11 different study activities suggested in the Idea, Development and Exploration stages would need to be carefully selected, defined and appropriately considered for each manuscript in the PREP. In general, there is a tendency to present publishable results from the activities in the Idea stage as abstracts in conferences. The CARS Congress may serve here as an example, by providing the possibility to publish extended abstracts in the IJCARS Supplement. Supplements in IJCARS are collections of extended abstracts or short communications that deal with related issues or topics, and are published as separate issues of the journal.

Publishable results from the Development stage typically find their way into regular or special issues of IJCARS. To be considered for being published in IJCARS as an innovative clinical investigation, manuscripts should have a focus which addresses the Exploration stage, in particular the activities "Focus on adverse effects and potential benefits", "Learning curves important" and "Definition and quality parameters development".

Manuscripts which pertain to the IDEAL stages Assessment and Longterm Study, typically belong to the domains of dedicated clinical journals and not to IJCARS.

Ordinarily, a Journal Club provides a forum for its members to review important articles on a particular subject of interest from a wide variety of sources. The CARS Journal Club will have a more focused purpose: analysis and process improvement for the PREP of material submitted to IJCARS and the CARS Congress. The Journal Club, by exploring the issues outlined above, will provide a forum for continuous quality improvement and standardization that may serve as an industry-wide roadmap for other meetings and journals. Primarily, this implies a thorough search for sustainable truths and verified facts, and an awareness of issues relating to the truth value,

impact factor and publication media. Those who participate in the Journal Club will have the opportunity to help design the specific goals, activities, and functions of this unique and important endeavor.

Finally, I should like to thank all authors and reviewers for submitting and/or reviewing for IJCARS in 2018 and I hope and look

forward to see some of you in the IJCARS Journal Club on 23rd June, 2018 in Berlin.

Heinz U. Lemke
Berlin, June 2018