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## The YO-IFOS Key Points to Write a Good Paper in Otolaryngology.

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**Concise title:** Write a Good Paper in Otolaryngology.

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Since the development of Young-Otolaryngologists of the International Federations of Otorhino-laryngological Societies (YO-IFOS) in 2017 [1], our group published more than 110 papers in peer-reviewed journals [<https://pubmed.ncbi.nlm.nih.gov/?term=YO-IFOS&sort=date>]. The strength of YO-IFOS was the rapid development of international collaborations led by young otolaryngologists who shared their expertise. One of the most blatant success of YO-IFOS collaboration is the first publication reporting the occurrence of smell and taste disorders in COVID-19 [2]. This paper has a worldwide impact with more than 900 citations 10 months after its publication making it one of the all-time most-cited papers in otolaryngology [3]. According to the membership criteria of YO-IFOS, all members are young otolaryngologists who are at the beginning of their careers. Members readily work together bringing international insight on the issues at hand. In this paper, based on our gathered experience, we propose some general and specific key points to publish a high-quality paper in otolaryngology, which may be defined as an impactful and attractive paper that could be published in high impact factor peer-review journal and, therefore, highly-cited.

## **General key points**

### *Study design*

1. This point is beyond the scope of this paper. However, it should always be kept in mind that a well-designed study is of paramount importance in order to produce relevant evidence and to be published.
2. Note that a poorly written manuscript but with a good study design may be fixed but not the opposite.
3. It is advisable to count on the experience of a research team. Firstly, mistakes and initially overlooked opportunities could be identified. Secondly, assistance could be provided in the sampling and study process. Multicentric studies offer higher levels of evidence and are better received by reviewers and readers.

### *Paper style*

1. Start by thoroughly reading the recommendations to the authors of the target journal, which may influence the length of the article, the number of figures/tables, number of references and sometimes the general organization of the paper.
2. The size of a paper is an important criterion for the journal regarding the cost of printed pages. Thus, the paper needs to be clear, complete and short as possible.

Remember that most reviewers prefer to review a short and clear paper than a long one with useless details.

3. Short sentences have to be favored. If a sentence may be cut in two, cut it.
4. In many Latin languages, the use of linking words (e.g. moreover, thus, therefore, in addition, etc.) is frequent, which is less the case in English.
5. Use the passive tense
6. Use the maximum number of key words (10) to ensure a large visibility of the study on PubMed/MEDLINE or other database.

### *Title*

1. The type of paper may be mentioned in the title (systematic review, case report, etc.), while ensuring that the title is still impactful. The title may consist of the results of the study. For example: “*The superiority of proton pump inhibitors over placebo is still not demonstrated in patients with reflux: a randomized controlled study*”. (reference?)  
ou titre imaginaire?

### *Introduction*

2. The introduction has to be as short as possible, ‘to the point’ and clearly focused on the arguments that support the rationale to conduct the study. If therapeutic results in a specific disease are reported, epidemiology, clinical presentation or additional examination in the introduction should not be developed, and focus should remain on therapeutic controversies.
3. The readership of the target journal should always be kept in mind, and explaining obvious facts should be avoided.
4. Citing several papers should be avoided if there is a previous review which could be cited.

### *Objective(s)*

5. The objective of the study is stated at the end of the introduction. In cases of several objectives, authors have to choose one primary objective, the others being presented as secondary/additional objectives.

### *Material and methods*

6. The following points have to be detailed in method section: study design; ethical approval and identification of the International Review Board which approved the study; disorder/disease diagnosis criteria; inclusion/exclusion criteria; statistical approach features (software, data distribution, tests used); outcomes;

validation/standardization of outcomes in the language of investigators; intervention characteristics (with sufficient details allowing replication).

7. The methods section may be adequately subdivided to improve the readability of the paper.

### *Results*

8. The results section should be short but may be adequately structured with subtitles to improve the readability of the paper.
9. First start by describing the sample (number of included patients; excluded participants and reasons; gender; age), secondly, the comparability of groups (if appropriate), finally the main results of the study starting with the main objective, followed by the secondary objectives (symptoms/findings prevalence; additional examination features)
10. The use of tables and figures is recommended, and authors have to keep in mind that the results described in them do not need to be extensively described in the text of the result section. Avoid unnecessary figures (e.g. if the sex distribution is described in a table there is no added value in a figure).
11. Note that the p value is only part of the results, but it should always be accompanied by the magnitude of association.
12. To reduce the number of words of the study, write  $p=0.001$  (one word) in place of  $p = 0.001$  (3 words).

### *Discussion*

13. If the study is unique, you may mention it in the first sentences of the discussion by stating: “To the best of our knowledge, this study is the first (...)”, but not without having conducted a thorough literature review . Continue by summarizing in a few words the main finding of the study. Remember that several readers will only glance at the manuscript, and the first paragraph of the discussion has to be impactful in order to attract their attention.
14. The discussion of results has to be structured in several paragraphs, each discussing a specific and relevant result. Avoid subtitles in the discussion. For example, after a short paragraph situating the importance of the topic in otolaryngology, you may state that ‘*the primary results showed that...*’ Once the discussion of the first outcome is done, the second paragraph may discuss the second part of the results.

15. The discussion needs to be short and as clear as possible and needs to only focus on the results of the study. *For example, do not discuss epidemiological or clinical controversies if your study focuses on therapeutic outcomes.*
16. The discussion may be improved by a methodological analysis highlighting the methodological differences (inclusion/exclusion criteria, outcomes, etc.) between the study and those available in the literature, in order to explain some potential differences. This methodological approach shows that authors are able to take a broader perspective on the results.
17. At the end of the discussion, it is important to report the limitations and strengths of the study. Be fair by describing the strengths, as unjustified flatteries may cause the opposite reaction from the reviewers. Limitations should also be fairly acknowledged to avoid misleading the reader and also prepare for potentially negative comments from the reviewers
18. Future perspectives may be presented at the end of the discussion. Advice to improve the quality of future studies or new potential research ideas related to the presented study are usually well-received and show that the authors have gained a broader view of the issue.

### *Conclusion*

19. The conclusion has to summarize the key points of the paper and their implications for practice. The authors need to make sure they answer the question implied by the primary objective of the study. Do not overestimate the repercussions of your findings, as readers and reviewers tend to frown upon overconfident authors.

### *References*

20. Choosing references from the target journal may be interesting because citing such studies may increase the impact factor of the journal in which the paper is submitted.

### *Paper redaction and maturation*

21. Writing a manuscript requires concentration and attention. It is recommended to spend a morning or afternoon to work on the paper and not a few disparate hours. Also, a quiet setting should be chosen with minimal or no potential distractions.
22. Once the paper is written, authors may take a break for few days in order to take a step back from the paper content and style. A paper is rarely ready for publication after the

first draft and may require corrections, revisions and changes in the next days/weeks before submission.

23. Choose appropriate collaborators, skilled in the knowledge field of the manuscript, as well as collaborators skilled in the writing and publishing process. Being part of a research team may help you finding appropriate colleagues.

#### *Data optimization*

24. When the study involves a large number of participants, authors increase the yield of the data through different analyses (for example impact of gender or age on different outcomes) that may lead to additional papers.

#### **Cohort study**

1. The outcomes, tools and methodological approaches used in the study have to be based on as validated and standardized as possible approaches. For example, the symptoms need to be assessed with standardized questionnaires, while many investigators (who reported interrater reliability) may use validated tools to assess the clinical examination. If no clinical tool is available, you may take advantage of the study to develop one.
2. The use of statements (e.g. CONSORT statement) is recommended [4]. These statements are guidelines designed to improve the transparency and quality of the reporting of trials. A myriad of statements exist for randomized and non-randomized studies.
3. The chart flow is necessary. Readers should be able to understand the study protocol with the chart flow.
4. As developed in the general key points, authors have to adequately discuss the results, reporting methodological differences with other studies that may impact the comparability, limitations, strengths and perspectives.

#### **Case report**

1. The first step is writing the case description. After this step, the author may write the introduction and the discussion focusing on the originality of the case.
2. The introduction has to be as short as possible and may not reveal the diagnosis to keep the reader on the edge of his seat. For example, the author may write “*in this paper, we reported an exceptional cause of dyspnea*”.

3. The rationale to publish the case report has to be highlighted through a photo/figure.
4. The discussion has to be “to the point”, focusing on the originality of the case and not on the other features of the disease. For example, if you report an exceptional cause of dyspnea, only discuss the causes of dyspnea, the potential mechanisms and the implication for practice. Do not extensively discuss the treatment that is not the key message of the paper.
5. If appropriate (when very low number of cases have been previously reported), authors may cite the number of cases reported in the literature and summarize them in a table.
6. The practical implications of the publication of the case study have to be highlighted in the conclusion.

### **Review & meta-analysis**

1. The type of review (narrative review, contemporary review, systematic review, state-of-the art review) has to be specified in the title and the paper structure has to be adapted.
2. The criteria for considering studies for the systematic review have to be based on the population, intervention, comparison, outcome, timing and setting (PICOTS) framework [5] or similar standardized and validated approach.
3. The review has to be conducted regarding the PRISMA checklist for systematic reviews [6] or a similar standardized and validated approach.
4. The results have to include table reporting study features and outcomes (studied outcomes). The presentation of outcome results has to be standardized across studies. The addition of a column “Findings” that summarizes in a short text the primary and secondary findings of the study may improve the readability of the paper.
5. The analysis of methodological differences between studies that may impact both the study comparability and the results of the systematic review/meta-analysis has to be performed with validated tools such as The Tool to Assess Risk of Bias in Cohort Studies developed by the Clarity Group and Evidence Partners [7].
6. The methodological discrepancies and bias have to be discussed in the discussion.

At the end of the discussion, authors may propose methodological ideas to improve future studies.

### **Video article**



1. Detailed IVORY guidelines for educational videos have been published by the YO-IFOS [8]. It is important that videos are edited, include educational aspects and not be limited to blunt self-promotion.
2. Video articles only report a case and cannot replace a cohort study to discuss outcomes of a specific technique. Videos are however very useful to report “how I do it” techniques and accompany a surgical case report
3. Like written articles, videos need to be short and to the point, focusing on a few take-home messages. The length of the video should be shorter than 5 minutes
4. Videos need to be narrated (ideally voiceover or otherwise using captions) to accompany the viewer throughout the procedure and point out key events
5. Anatomy and imaging should be explained by overlays or arrows during the film
6. Key surgical steps should be identified and take-home messages listed at the end of the video

### **Statistical analysis**

1. Statistics and significance are key issues in an article and must not be taken lightly: please refer to a professional statistician if you do not feel sure of which test to use or how to use it
2. Clearly state which statistical analysis and which program was used in the methods section
3. Clearly state if populations have a normal distribution before using parametric tests
4. Sample sizes should be statistically determined in advance, when appropriate
5. Actuarial statistics should be used for populations which are followed over a certain period of time, with events (mortality, relapse, etc.) or lost-to-follow-ups
6. Multivariate analyses should be used if multiple variables are considered significant using univariate analyses
7. Margins of error and confidence intervals should always be specified when appropriate [9,10].

### **Conclusion**

Writing a paper is a task that requires training and a specific set of skills which can be improved throughout a career. Regardless of the subject, too many papers are refused from journals due to lack of preparation of the manuscript or correct emphasis on the main results. We hope that our experience, as a young international dynamic group of otolaryngologists,

the YO-IFOS, may be helpful for the writing and publication of quality scientific articles. International collaboration and sharing of skill and expertise, certainly seems key to improve the level of scientific publication.

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