



# Writing a paper for journal submission – Some keys to success

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## INTRODUCTION

This short article is derived from a presentation given to the International Conference of Orthodontic Journals in Athens on March 2002. This was a forum of orthodontic editors and publishers but, most importantly, it was also open to potential authors and readers of Journals within our speciality. The last two categories are arguably the most important since they are the 'lifeblood' of any journal and, as such, must be cared for and nurtured by editors. As part of this latter process I prepared this presentation, which is intended as a guide to preparing a paper for submission to an international journal.

In places, some may think the guidance produced in this article is very basic. I offer no apologies for this since, although that may be the case for experienced authors, it never ceases to amaze me how often basic mistakes are made by others, leading to a waste of time and effort for both the author and the editor. Mistakes will occur on occasion since we are all only human. However, lack of proper preparation and carelessness by the author, often a novice, can be very irritating to an editor and may unfortunately set the tone for the future relationship between them. So following some basic rules, applying a few 'tips' and having a simple checklist to use prior to submission may avoid many of these fundamental mistakes.

On what experience am I basing this advice? Well, I have been an academic in the speciality of orthodontics for more than 20 years with more than 130 articles and papers published in journals. In addition, I have written and/or edited 5 books but perhaps, most importantly, I was Editor in Chief of the Journal of Orthodontics for 5 years, after an apprenticeship on the editorial board. Currently, I serve as a member of five other editorial boards on journals covering interests ranging from general dentistry to specialised biomechanics. I mention this information purely to establish my credentials and to confirm my continuing contact with the world of

editing, refereeing and journal production.

It is always difficult to translate a visual presentation into a meaningful text, which is easy to read. It is in an attempt to capture the essence of the original lecture that I have followed the style of a written editorial.

## AIMS & OBJECTIVES OF THIS ARTICLE

The aim of this paper is 'to help authors in the preparation of material for publication' – my view is primarily, although not exclusively, from the perspective of the receiving editor.

The objectives of this short piece are as follows:

- To offer general guidelines on writing articles including common mistakes
- To draw the distinction between Scientific and Clinical Papers
- To consider the importance of Journal Housestyles and Guidelines
- To suggest strategies for dealing with the editor
- To offer general hints and tips to the author.

As far as possible I shall present the information in the form of bullet points and checklists for ease of reference.

## WRITING FOR JOURNALS - SOME INITIAL THOUGHTS ON WHERE AUTHORS COMMONLY GO WRONG

At the outset, I offer the following observations on where problems may arise following the receipt of a paper in a journal office. It is not an exhaustive list but illustrates the type of error frequently made by the submitting author. It is presented as questions that I feel authors should ask themselves before mailing the paper to a chosen journal.



### 1. Is your topic appropriate to the journal?

*Example:* The research work described in the paper may be too specialised for the target readership of the journal to which it is submitted.

*Outcome:* Rejection, usually before entering the referring process.

*Advice:* Familiarise yourself with the journal to which you are submitting work. Find out the type of topics that are published from reading a selection of past issues. Go to the journal website to check the aims of the journal and its target readership.

### 2. Is the work you describe valid, original, educational and/or of interest to the readership of the journal to which you are sending it?

*Example:* Few journals are interested in publishing a repetition of work already published in other journals.

*Outcome:* Probable rejection at the refereeing stage.

*Advice:* Know your subject; know the literature, so that you can clearly make the case for what is new and of interest on the topic you have chosen.

### 3. First impressions count! Have the title and abstract been carefully crafted?

*Example:* A long and obscure title supported by a similar abstract will suggest to an editor and referee, even before reading it, that there may be similar problems with the paper.

*Outcome:* This could influence a borderline decision on whether to publish/ amend or reject a paper.

*Advice:* Think very carefully about the title. It should be brief, accurate and descriptive. It should attract a reader to the paper. The abstract should follow the same rules but, in addition, should follow the guidelines of the journal. Remember that, if the paper is published, it is likely that the majority of readers of your paper will not go beyond the abstract.

### 4. Have you written clearly and with economy?

*Example:* Most articles submitted will require pruning and editing. The author who originally wrote the article will often find it very difficult to reduce its length.

*Outcome:* If paper is accepted it will then require reduction in length by the author delaying publication.

*Advice:* Get another experienced author (or editor) to read the final draft of the paper before submitting to get another view on the quality of the writing and to identify areas of repetition.

### 5. Has the literature been adequately reviewed?

*Example:* Usually a paper will go to at least one

referee who is very familiar with the area of research. Referees will know the literature and will not be impressed if their work in the area has been missed. Poor coverage of relevant literature suggests sloppy technique and puts a question mark in the referee's mind as to whether the rest of the work has also been done without sufficient care.

*Outcome:* May be an important consideration in a paper, which is borderline for acceptance (subject to amendment).

*Advice:* Again you must know your subject and all of the literature - not just the local literature written in a familiar language. You may be dismissive of some previous work published however it should always be included in your review and any shortcomings identified and described - politely!

### 6. Have all of the authors agreed the text?

*Example:* A paper is submitted without all authors signing the standard journal submission/copyright forms.

*Outcome:* The review process of the paper is delayed.

*Advice:* Sometimes, particularly where authors are in different countries, this may take an effort but it must be done for sound legal reasons, which protect authors as well as publishers. Never forge a signature.

### 7. Has an experienced author read your paper before submission?

*Example:* Sometimes a paper is poorly written because this is not the author's first language.

*Outcome:* Long delays whilst paper is redrafted and rewritten. Sometimes a referee will not be prepared to correct grammatical errors, particularly where there are many, and might, as a result, recommend rejection.

*Advice:* Always get another view on the presentation of your work. If you follow this advice it will probably avoid obvious problems in the text and reduce delays in the acceptance of the paper.

Finally, remember the Six-draft Rule! An experienced author told me many years ago that every paper will need to go through at least six drafts before acceptance and that it is better to do the majority of this redrafting before submission. In my experience, this is very good advice. To assist this process don't be in too much of a rush - put the paper aside for a couple of weeks and then read it again before submitting it. You will be amazed how many errors in grammar and spelling you will detect.



## WRITING A SCIENTIFIC PAPER

Good authors are made - they are rarely born. That being the case, it is wise if inexperienced authors follow traditional guidelines in the presentation of work. A fundamental structure for the presentation of scientific work is the IMRAD scaffold - try to keep to it as far as possible:

Introduction – why did you start the research, what's the background?

Method – what did you do and why?

Results – what did you find of importance?

And

Discussion – what does it mean, what is the clinical relevance and where might it lead?

In a well-constructed paper there will also be an appropriate abstract (usually itself structured to a similar format) and a short conclusion (often best limited to 5 - 6 bullet points).

The errors most frequently made when this IMRAD format is applied by novice authors are as follows:

- Introduction doesn't clearly state the problem to be addressed by the research – literature review is limited to the authors own language
- Method/Results/Discussion don't follow the same sequence of events to assist readability
- Method doesn't make clear that the important preliminaries were performed before the work commenced. For example: detailed research protocol – early consideration of sample size and statistical power – ethical approval for a clinical study – detail of the original plans to collect data and analyse.
- Results section has too much text and is anticipating the discussion. It should only have enough text to explain the tables and graphs presented. These should be both relevant and as inclusive as possible.
- Discussion is too long and repetitive. It should develop ideas flowing from the results and be presented in the same order if possible. The discussion provides the opportunity to relate to previous work and to speculate. It should identify relevance of results to the readership of the journal. It should discuss limitations of the work and the possibilities for future research.
- Conclusion is too long and is not structured. It should include the most relevant 'take-home' messages. Conclusions must have been justified by the results.

So let us briefly consider each component of a

scientific paper, using the format of checklists.

### *The Title*

I have already mentioned titles but they are so important and so often neglected I offer some more advice:

- Some properly dedicated time should be spent on this – it is the first thing (and unfortunately often the only thing!) read from a published paper – it is a personal preference but I always draft it first since it helps focus my mind on the topic before I start to write the rest of the paper.
- It should be short and informative.
- It should convey the subject matter, be easily understood and excite interest.
- It should avoid too many adjectives and should not be sensationalist.

### *Authors – who to include*

This is a very difficult area, particularly for junior staff working in a culture where it is normal to include a senior staff member amongst the authors (for example the Head of Department) even if they have not been involved in the research. However, international guidelines are becoming increasingly clear about this:

- Named authors should have made a substantial contribution
- Named authors should be key people – the rest should be included in the acknowledgements.
- The list should be kept as short as possible.

### *Abstracts – general advice*

- Remember that, after the title, this is the part of a published paper most frequently read.
- It should be short and informative
- It should contain the essence of the paper and be able to stand alone to allow the work to be understood
- It has great and increasing importance in electronic storage and access to research papers
- It should follow journal guidelines particularly with regard to number of words
- It probably should be structured unless there is a good reason not to do so.

### *Structured Abstracts*

It is wise to get into the habit of writing structured abstracts, particularly since it is now a requirement in most quality international scientific journals.

A common structured abstract would follow these subheadings and be in this order:

- Objectives
- Design



- Setting
- Subjects
- Interventions
- Outcome Measures
- Results
- Conclusions

#### *Key Words*

These are usually included under the title or abstract. They should be three to six words, which headline the subject matter.

- They are very important but are often added as an after-thought
- You must get them right if you want your paper to be found in searches, read and cited.
- When writing keywords think about the subject matter and categories you might use in a literature search of this topic.
- Look at other papers in the same topic area and see what words they used.

#### *The Introduction*

This has had some discussion already but below is a checklist:

- Why have you undertaken this study?
- Indicate under this heading that you know relevant studies which have gone before
- Make sure the review of the literature is both relevant and complete
- Educate the readers of the relevance of the question you are answering
- Try and end with a hypothesis, probably the null hypothesis, and briefly summarise the study to be described (all in a short paragraph).

#### *The Method & Materials*

Should describe in a logical sequence how the study was designed, conducted and the data analysed. Below are details an editor might look for in the description of research work:

- Study Design – keep it brief – state how you decided the sample size – what statistical advice was sought at the outset – were there any ethical considerations – what was the method of randomisation if any?
- Performance of study – describe subject recruitment – the exclusion criteria – details of materials or drugs or treatments – details of apparatus or measurement systems and the error of each system
- Analysis of data – discuss the significance level to disprove the ‘null hypothesis’ – the statistical power of the study – the statistical tests to be applied and why they were chosen – the details of data

manipulation and the justification for selection.

#### *The Results*

Some important points to look for in the results are as follows:

- Minimal text but sufficient to explain the data presented
- Tables, Graphs and Figures should be clear, of high quality and should not duplicate each other
- Tables and Illustrations should have a legend and be able to stand alone as far as possible
- In the results keep things as simple as possible and don't get carried away by computer graphics
- Do not present data to a greater degree of accuracy than that of the measurement error (usually 2 decimal places is enough!)
- When condensing data give – number of subjects – range of results – central tendency (mean with SD?) – and the spread of data (confidence interval?)

#### *The Discussion*

Some points to consider when writing the discussion:

- It should follow the same format as the results
- It should include a short statement of the main findings
- It should draw comparisons with other relevant work
- It should discuss the relevance of your methodology including errors and deficiencies
- It should state what the implications are of the findings and their relevance, if any, to clinical practice
- Finally it should give a steer as to the future - where do you go from here?

#### *The References*

This is where you can demonstrate your attention to detail to both the editor and referees. Get them right and consistent first time and to achieve this aim:

- Collect and store your references in an appropriate style as your research proceeds. Keep short notes with them. This will help when reviewing the literature for the paper
- Keep the style consistent – modern software can help check this
- Carefully cross-check all references to text
- The references must be complete and in the housestyle of the journal
- Don't be careless. It can waste a lot of time at the refereeing and proof stage of a papers development



### *The Journal Housestyle*

A few points on the housestyle from the perspective of the editor:

- Style matters – it is one of the jobs of an editor to maintain the standard and consistency of presentation of the journal - so be sensitive to this requirement
- Consistent housestyle helps in the efficient communication and dissemination of the information in the journal. It aids readability.
- Housestyle helps give a journal its own distinctive identity
- Attention to housestyle can be of great assistance to the editor in getting a paper dealt with more quickly
- Getting it right first time shows you are a 'professional'.

### *The Case Report*

So far I have focussed on the preparation and submission of scientific research papers. This is appropriate since these must constitute the most important part of any serious orthodontic journal. Also, it is usually where the majority of problems occur for young authors. However, I think it is important to also briefly consider case reports.

Obviously, case reports provide the poorest level of evidence for the effectiveness of a treatment or technique. Having said that, it is also the oldest form of communication in medical science (and some would say the most useless!). However, I believe a well-written case report still has value and should be retained in the literature, although always understanding the limitations. In other words a 'health warning' within the text is almost a pre-requisite of any case report. Where they are of most value is in the communication of experiences in treating rare conditions. However, they can also be useful to illustrate the best that can be achieved and should help communicate national standards - an example being the publication of prize-winning or outstanding treatments.

I would suggest the following guidelines in preparing a case report:

- Give a short title to the case report or short series
- Prepare a very short abstract – no more than a phrase
- Identify the problem clearly
- State why it was unusual – in other words why the editor should publish it

- Give a brief review of any relevant literature
- Briefly describe the presentation
- Briefly describe the course of events
- State why you managed the problem this way
- Could it be done better in the future?
- Use two or three high quality composite figures – no more
- Be aware that there is generally limited space for clinical case reports in journals

## CONCLUSIONS

In this article I have tried to give some guidelines and indicators on how to improve your papers prior to submission to an international journal. Most of what I have described is applicable to writing for any journal although I have always kept the speciality of orthodontics in mind.

I would like to finish with a list of what an editor might expect when dealing with a good author:

- The author should be courteous and helpful in all dealings with the editorial and journal staff
- If asked to referee for the journal, they should do it rapidly and with care with numerous suggestions on how to improve the text
- The author should, from the first contact, work on developing a good relationship/dialogue with the editor. E-mail is a particularly good way of doing this.
- The author should deal with revisions of the paper in a professional way. If you don't agree with what is being suggested, say why you don't agree and suggest a compromise. If there are good reasons, the editor might accept them. However, the author always should realise that the editor is the final arbiter and accept the decision.
- The author should deal with criticism in a business like way - occasionally referees comments are not well expressed, particularly if given in a language which is not their own.
- Accept rejection gracefully, another journal may take a different view on your paper. It is possible that the editor was on your side but was outvoted by the referees. Don't destroy a carefully built good relationship through hurt pride
- Never let your ego get in the way of business!

I also have a view on what the author might expect from a good editor but time and space constraints mean I must save that for another occasion.