This booklet provides surgeons and researchers with information about the various ways in which they can present the data and results of their clinical and research studies.

The aim is to provide a guide as to how to prepare scientific presentations, and how to prepare and submit a manuscript to a journal.

ESA
European Shoulder Associates
A section of Esska

HOW TO PRESENT A SCIENTIFIC STUDY

Baris Kocaoglu (Editor)
Ersin Ercin
Antonio Marmotti
Nick Paschos

Provided by the Basic Science Committee of ESSKA

AFAS
Ankle & Foot Association
A section of Esska

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The goal of this booklet is to provide surgeons and researchers with information about the various ways in which they can present the data and results of clinical and research studies.

The aim is to provide a guide as to how to prepare scientific presentations, and how to prepare and submit a manuscript to a journal.

The authors do not intend to be exhaustive, more to offer their practical advice about how to provide good and effective communication of these data and results.

The format of this booklet is intended to allow you to keep it in your pocket, and to refer to it as a reminder whenever you need.

Basic Science Committee of ESSKA

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HOW TO WRITE AN ORIGINAL SCIENTIFIC MANUSCRIPT

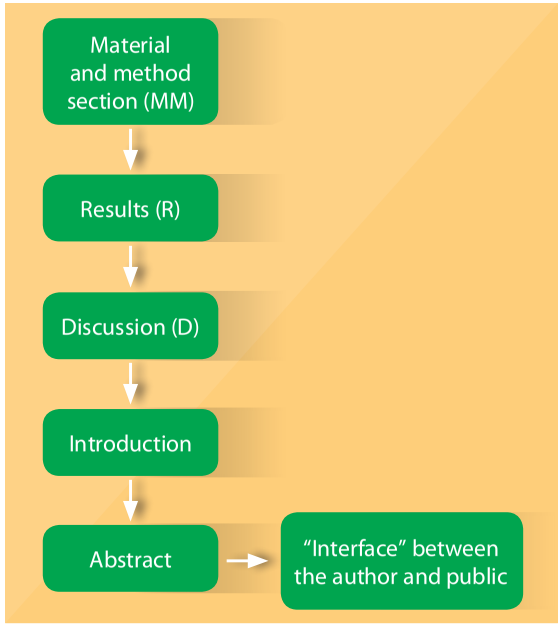
When I was attending the Medicine School back in the nineties, a famous quote from a Biology Professor was, "science is 10% inspiration, 90% perspiration". And this is nothing but true in the field of orthopedic research. Indeed, from a single brilliant inspiring idea, there was a following, long, period of striving to correctly conceive an experiment either *in vitro* or *in vivo* in human clinical trials.

The completion of a research project may already represent a long road full of obstacles, from culture chamber contamination, to animal sudden death, to serious adverse events in clinical trials. Nonetheless, after several efforts, we may have enough data to finally write a manuscript. This moment may be exciting, but it is also a time of perspiration.

An original scientific manuscript is undoubtedly the target of any researcher because it shows the scientific community the innovative results arising from the original intuitions that have driven all the experiments. Indeed, the final outcomes can be compared to an "identity card" resulting from a long path of research, effort and discussion.

Writing a scientific manuscript takes time and patience, which are essential in deciding how to present the data and to read the necessary references. Moreover, tables and figures should schematically represent the main outcomes of the research. Over the years, we have developed a possible scheme to be followed in order to write a draft of a paper, and it could represent a potential "philosophy", that may facilitate writing.

The first basic rule when writing a manuscript is: "Do not follow the sequence of the paper" [1]. Indeed, an easy way to conceive a manuscript is:



ABSTRACT

The abstract should, ideally, be the last section of the manuscript to be written or revised by the authors before submission to a specific journal. It should represent the "identity card" of their research, and it is often the interface that allows the reader to choose to read, or not to read, the entire manuscript.

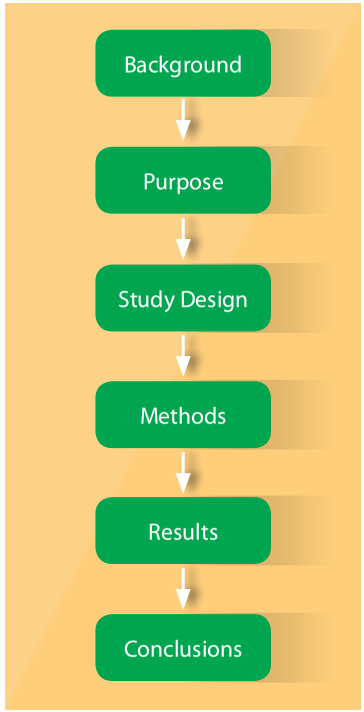
Having written the entire paper, it should be easy to compose the abstract as a sequence of brief sentences summarizing the different sections of the manuscript. Indeed, the writer may start with a simple phrase inherent to the background of the study, followed by a phrase briefly describing the Materials and Results sections. A third phrase should give a brief summary of the meaning of the results achieved, and the possible preclinical or clinical relevance of the work.

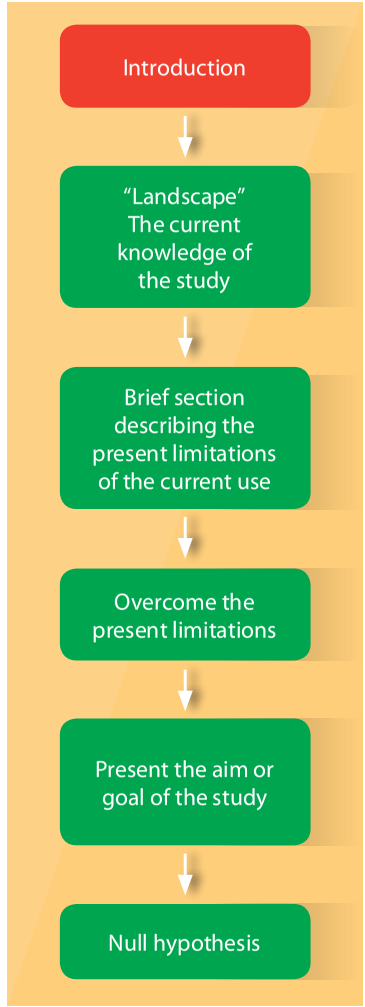
Note that every journal has a unique format for abstracts. An example related to the *Journal of Knee Surgery Sports Traumatology Arthroscopy* (KSSTA) is shown below.

INTRODUCTION (IMPORTANCE OF THE HYPOTHESIS)

The null hypothesis may be stated as the hypothetical situation in which the results of the study will nullify the aims and hopes of the researchers because no difference would have been observed between "case and controls" at the end of the experiments. It is the "saddest" ending that the research may have and it represents the potential failure of the study to improve a certain experimental setting.

In literature, there are rare but very interesting scientific papers in which the authors recognize the confirmation of a null hypothesis. In light of this





eventuality, the authors should justify in the Discussion section of the paper their null hypothesis and offer a clear description of what should not be done in certain *in vitro* preclinical or clinical settings. This specific "negative" setting may be dealt with in the same sequence as the one previously described, and the innovations offered to the reader will be symbolized by the concept of "not performing" a certain procedure/treatment/surgical procedure.

MATERIALS AND METHODS (MM)

The first paragraph of the materials and methods should present the "criteria for choosing the study population". In the corresponding paragraph in the Results (R) section (see below), the reader will find the information required about the population. This may be resumed in the sequence.

Considering these three simple and quick basic rules, a

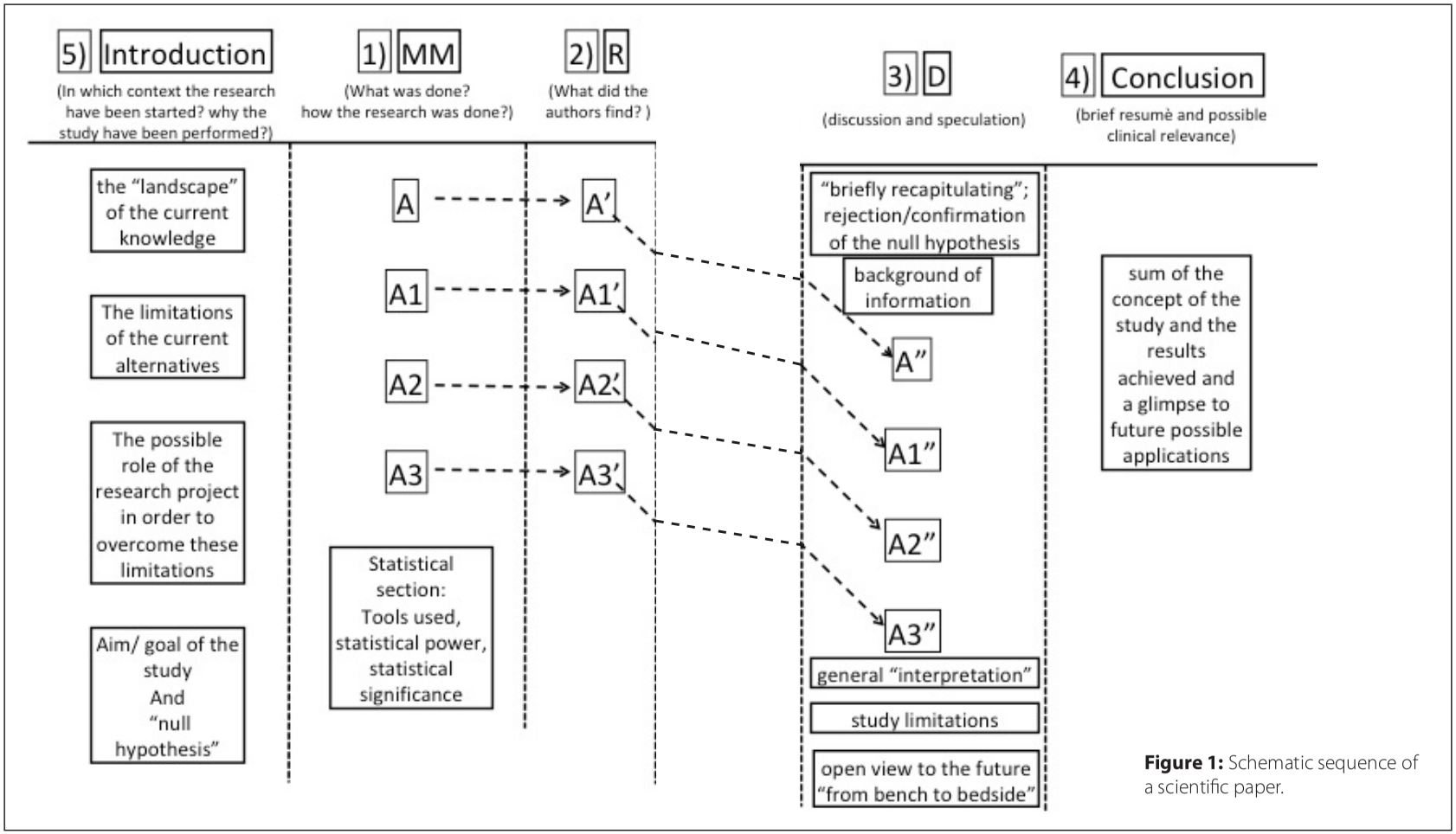


Figure 1: Schematic sequence of a scientific paper.

schematic sequence of the entire scientific paper may be hypothesized, as shown in Figure 1.
Furthermore, specific details regarding each single section may be considered.

As the first section to be addressed during the manuscript composition, the materials and methods (MM) represents the descriptive part of the entire research project. Essentially, these should describe, in detail, the experimental planning and all the materials and techniques used. Moreover, they should be concise and should provide sufficient elements to allow for replication of the experiments [1].

The materials and methods section can start with a brief sentence concerning the ethical approval of the study, either with a number of approvals, if available, or with a statement referring to the institution where the study has taken place. Then, the sequence of the paragraph (A, A1, A2) may follow the schematic structure: i) study setting; ii) source of cell/participants; iii) design of the study (time and setting for cell culture/animal housing, patient follow up); iv) culture condition/treatments or interventions; v) methods for analysing the end points and the outcomes (ie, immunofluorescence *in vitro*, MRI *in vivo*, tools to evaluate outcomes).

The last part of materials and methods is dedicated to a brief paragraph analysing the statistical power of the study and the statistical tools used to analyse the project data. The statistical significance must be declared, ie, assessing that, "$p<0.05$ was considered significant". If any peculiar tool was used to elaborate the data, a brief description is needed. For example, if a freeware toll such as "Image-J" was used to obtain a semi-quantitative representation of the intensity of a certain signal (such as immunofluorescence), at this point of the manuscript it may be favourable to insert a description about how this freeware works, and how the non-numeric values of the light intensity are extrapolated into numeric values from the rough images.

Help from a biostatistician may be useful at this moment to ensure the manuscript has the correct statistical power (such as adequate cohort of cases and controls) and a correct randomization that must be accurately described.

RESULTS (R)

Following the rule of the correspondence, the author will "aseptically" present all the results related to the previously mentioned sections, declaring the *p*-value and presenting the mean values with the correct Standard Deviation (or Median values with the standard error, dependent upon the statistical setting). Thus, the R section, may follow the general schema of "A', A1', A2'.

In this section, no personal evaluation is allowed. Figures may report the same values declared in the R section, but they are fundamental for the reader to better visualize and comprehend the concepts of the study. If the numbers available are copious, figures may also be used to shorten the result section thus leaving in the main text only the most relevant numbers and values of the study.

DISCUSSION (D) AND CONCLUSION

At this point of the manuscript, the author must be prepared to discuss all of the data with respect to the scientific literature. It is a unique opportunity to "make the research project alive", by outlining all the positive and innovative aspects of the study design and the results obtained. The author can also justify any single new acquisitions in the light of their current knowledge and can speculate upon a possible personal explanation for the main findings of the study.

As previously mentioned, the author should start this section by "briefly recapitulating" the concept of the work and the main innovative aspects of the research. It is important to mention in this short paragraph the principal findings of the study, in order to "grab" the attention of the reader; thus, this person will

potentially read the entire section with interest [2,3]. In this first paragraph, related to the results achieved, the author may also reject (or eventually confirm) the "null hypothesis" that should be included in the introduction.

An overview of present knowledge related to the topics of research may follow, as a necessary and more detailed extension of the introduction. This should be a general paragraph where the author can mention the alternatives to the treatment/operation/drugs that are present in the literature, and the most important papers inherent to that specific subject. As this is a "general knowledge subsection", the writer should not mention the study, but should give a "landscape" of the present situation in which the study took place. This section may represent the necessary background information that the reader has to recall (or even learn for the first time) to be able to fully understand the concept and the principles of the research presented by the writer. Then, the author has to become more specific and, in light of the present literature inherent to the research project, has to discuss "point to point" all the parameters previously mentioned (MM and R)[3].

The section is important because it explains the real value of the study, and the writers and co-workers should carefully plan it with an extensive knowledge of the present literature. The innovative aspects of the study should be ascertained essentially from this part of the manuscript.

Moreover, this "point to point" discussion of the work could also help the author in the introduction of the next paragraph, which should contain a general "interpretation" of the main essential concept of the study. To complete the discussion, the author should add two final subsections.

The first is a brief paragraph on the study limitations should include any possible criticism about the statistical power, the potential small numbers of the different categories of the studies (specimens/samples/patients), and any potential conflicting results that have not been dealt with during the previous sections.

The second and final paragraph is an "open view to the future" that the author may offer to the readers. This part should contain a "take-home message" dealing with future hopes and potential uses of the research. Thus, the authors can conceive any possible future studies and clinical applications of their research.

CONCLUSION

A separate "Conclusion" section at the end of the manuscript may be required by some journals. This section is an easy task for the writer because he/she should simply summarize, in one or two sentences, the concept of the study and the sum of the results achieved, without any personal comment. A clinical implication and any future possible applications and studies may also be concisely mentioned. This section should not be seen as a duplication of the manuscript contents, but as a brief specification of the work done. Readers who do not have enough time to read the whole paper may spontaneously skip the intermediate sections, and may just immediately look at this final part of the manuscript. Therefore, a brief and complete synopsis is useful, to present all of the work in a few words, in order to provoke the interest of any potential occasional reader.

COMMON MISTAKES IN MANUSCRIPTS AND HOW TO AVOID THEM

Figures and tables should be properly revised. Good advice is to try to conceive any figure or table as if they could be read as a stand alone part of the manuscript [4]. This last act should be done with attention to include in all the figures a properly detailed legend depicting extensively all the abbreviations used in the corresponding figure or table. The statistical significance ($p< 0.05$ or less) should always be mentioned in the figures or in the legends when data and numbers are presented in tables or histogram. As personal advice, the author should try to use the easiest form of histogram for data presentation, to facilitate the reader in comprehending the data distribution "at a glance".

Colors should be carefully used to outline the differences between the study groups. The author should pay attention to specific images as, for example, immunofluorescence pictures may result in "all black" images if colors and brightness are not properly adjusted. The same attention must be applied when showing histological samples that need a "referring scale" that allows for better comprehension of the dimension in the microscopic scale. Sometimes, the legend of the figure can also contain brief comments about the "general meaning and concepts" of the results presented by the images, so allowing for a "shift" of sentences from the discussion to the legends of the manuscript figures if the discussion may seem too long at the final revision of the paper.

A brief look at the references must be done before submission, to ensure that every citation has been transferred, with all the information needed, and a final look may be useful for facilitating the review process of the manuscript.

Last but not least, all co-workers should ask themselves: "Is the title attractive?" The title may be considered as the "symbol" of the research work and it is the first interface between the Authors and the future readers. Indeed, the manuscript will be catalogued in any search engine, such as PubMed (https://www.ncbi.nlm.nih.gov/pubmed/), by the title and the keywords the authors choose for "capturing" the main topic of the research. Thus, any writer should realize that, in a long list of "pertinent" articles around a specific topic, the manuscript will appear alongside many other articles. In order to have more possibilities for "catching the eye" of the reader, the title should be as short and provocative as possible. It should contain some words related to the topics of the research as well as some hint about the results achieved, generally in a straight literary style and in a clear sentence.

Thus, finally, it is possible to solve a complex problem such as "writing a scientific paper" by means of separating it into sections and subsections and dealing with them one by one. Naturally, this takes times and "perspiration". However, a nice and complete result may be achieved using some of the clues and advice mentioned above. These will enable you to make the work-flow easier and faster, while always allowing a general structure for the paper while dealing with the single sections.

And the remaining is up to our imagination, to our love for research and a bit of courage and bravery in starting such a hard task. Indeed, as Steve Jobs said, in 2005 [5], "The only way to do great work is to love what you do". So "Stay Hungry, stay Foolish", and above all good luck.

PRESENTING OTHER SCIENTIFIC STUDIES

HOW TO PREPARE A SYSTEMATIC REVIEW

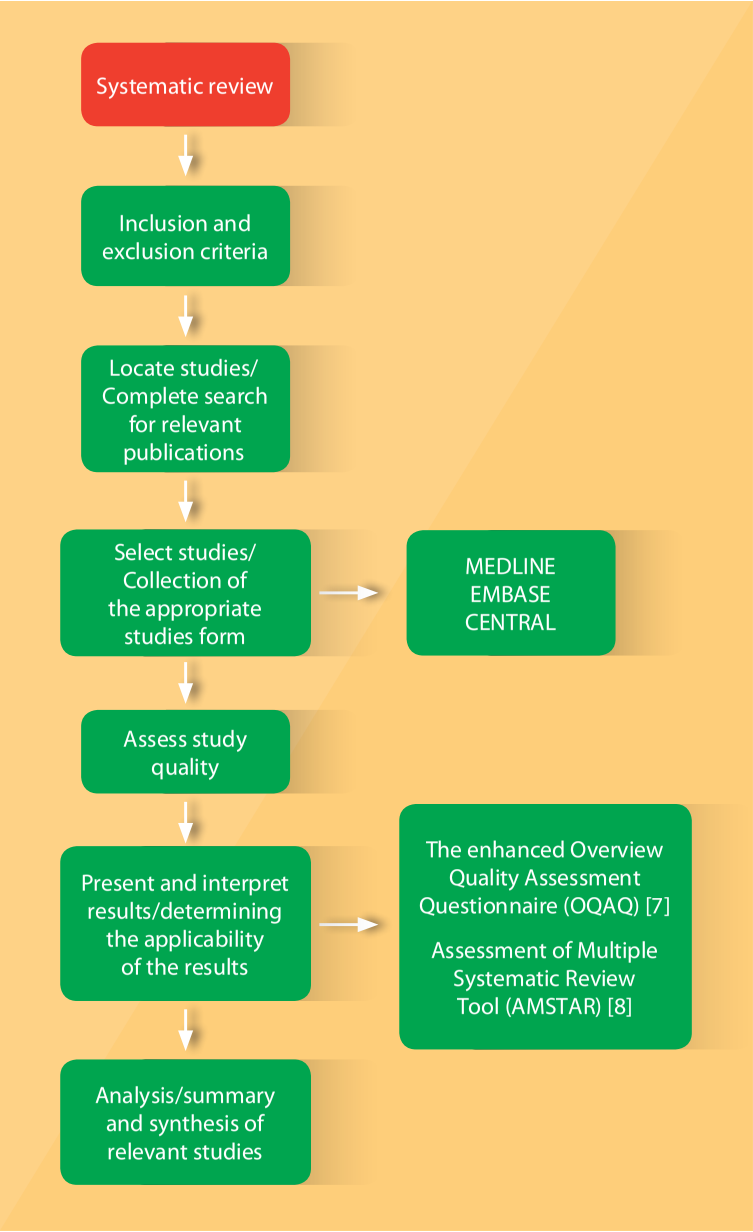
A systematic review is a secondary research process using a comprehensive and transparent method to address a clearly formulated research question. The subject of a systematic review is independent studies [6]. Systematic reviews are critical in clinical-decision making, by pooling high-quality data with evidence-based knowledge. Strategy to conduct a good systematic review is dependent on to keep track and use the time wisely by doing wisely read and write.

Formulating the review question and developing the study protocol

A good question is the response to identified priorities and the needs of the community. We could be focused (foreground) or broad (background) in the construct. With focused questions, it is more likely that we can conduct a complete search, give a clearer guide to the data and make it easier to draw a conclusion, than by giving broad questions. It can be wise to start with a more focused question when performing first writing trials. A review question does not much differ from a research question, and should precisely define the objective and scope of the study [7].

The PICOS (Participants, Interventions, Comparisons, Outcomes and Study design) represents the components of the question, and is used to present a well-structured research question [8].

Simplified Steps of systematic reviews are as follows:



PRESENTING A TECHNICAL NOTE

A technical note is a short article describing a novel technique, surgical method or technical development. The main purpose of a technical note is to provide a description of an innovative technique or piece of equipment. What journals seek from a technical note is to be clinically relevant and reproducible. Before presenting your technical note, please ensure you follow a step-by-step approach, answering the following questions that may help your preparation.

IS YOUR TECHNIQUE REALLY NOVEL OR A RELEVANT MODIFICATION?

Many surgeons make modifications to surgical procedures, which is sometimes necessary accordingly to the diversity of the patients, equipment availability, and the diversity of practice in the clinic or of the surgeon. Before deciding to write the manuscript, ensure that the technique or modification has not been published before.

WHAT IS THE TARGET AUDIENCE AND JOURNAL?

Selecting the target audience and relevant journals is critical for planning, Different journals have different guidelines for technical notes. Some may require a video or high-definition figures. Become familiar with the requirements of the journal and make a checklist.

IS YOUR METHOD WELL DEFINED AND REPRODUCIBLE?

Descriptions of the equipment and surgical theatre are mandatory. You must ensure that you clearly describe the equipment needed for the technique. If you are using a new tool, ensure that you clearly describe how to construct it or where to find it. Additionally, sometimes, describing the technique on a model is more understandable. If this is the situation, it would be better to prepare the model and describe your technique.

WHAT IS THE ASSET OF YOUR TECHNIQUE, DEVICE OR DEVELOPMENT ON CLINICAL PRACTICE?

Many Journals request a technical note that is clinically relevant and repeatable. This will be the core part of your paper. You must compare with other methods, and describe the advantages and disadvantages of your development and always be honest in doing so.

CONTENTS OF A TECHNICAL NOTE

Title: Title is a window to your article; it should be clear and enquiring.

Abstract: The abstract of a technical note is a structured or non-structured summary of the paper. Note, journals have different word limits.

Introduction: This forms the background to the necessary information provided within your paper. It presents the reason for developing a novel technique or development, and advantages of the technique over previously published ones.

Methods: This section is the central part of a technical note and should contain detailed information. It systematically describes starting from the planning of the technique, patient selection and instrumentation. It also shows that you are performing a procedure that you have never performed before and describes all steps in details. Readers do not feel comfortable in applying something new if they do not know the details. You must describe what is done, how it is done, where to do or not do it, and what is needed to perform it.

Results: The results section may be combined with the methods sections in some circumstances, dependent on the journal's guidelines. You must present the data in a clear, demonstrative manner.

Discussion: The value of the report should be explained. You must explain and compare how your technique differs from others, and what is the clinical relevance. The limitations and weaknesses of the method should be clearly stated.

Acknowledgments: In this section, you must detail the assistance gained from others who do not qualify as an author. You must also declare the informed consent of all patients, as applicable.

References: These should be prepared in the format of the journal, and you should consider limiting the number references.

Illustrations: Drawings, pictures, video content are mostly helpful, and many journals ask for them as readers commonly refer to them in order to understand the method. You have to ensure that your preparations meet the requirements of the target journal's guidelines. Good quality is commonly preferred.

PREPARING ABSTRACTS FOR CONGRESSES

An abstract for presentation at a congress is a brief summary that contains enough information about the work you want to present at an academic meeting. A well-written abstract is a reflection of your proficiency and your respect for the event you are applying to. An abstract needs to stand alone as a clear summary of your presentation.

Twelve tips to present an abstract at an academic meeting are:

1) Strictly obey the abstract preparation and submission instructions of the Congress
2) Ensure that the content of your abstract is suitable for the congress's remit
3) Keep to the deadline. Try to submit within a suitable time before the deadline, in order to not undergo unexpected situations
4) Include additional information, if needed

5) Inclusion of drug names, promotion of commercial entities, products, etc. are not permitted in most congresses
6) The number of papers submitted by a single author and number of authors within an abstract has some limitations dependent upon the congress guidelines
7) All co-authors must have reviewed the abstract before submission and should take responsibility for its contents
8) Abstracts should preferably contain previously unpublished results, unless stated otherwise
9) Write the text with correct spelling and syntax, keeping the language simple and clear. Do not use unnecessary words and sentences.
10) Proof read your abstract several times
11) Refer to the checklist for congress abstract submission, if provided
12) Ensure that you understand who may be the copyright holder

STRUCTURE OF AN ABSTRACT

The abstract can be structured or unstructured. A clear understanding of the abstract submission guideline is needed before preparation. Examples of structured abstract headings and recommendations are provided below.

Title: The title should be strong, concise and interesting. It should aim to grab the reader's attention; include main goal, design, and investigation.

Objective: This includes the current knowledge about the topic. What is your study's main subject and importance? It may identify a gap in research. What is your hypothesis?

Methods: This should state whether the study is prospective or retrospective. In a conclusive way, this section describes your method and measurements; you must describe the participants and data of your study, and also declare your statistical methods. You must ensure that the reader can understand the design of the study clearly, without giving too much unnecessary detail.

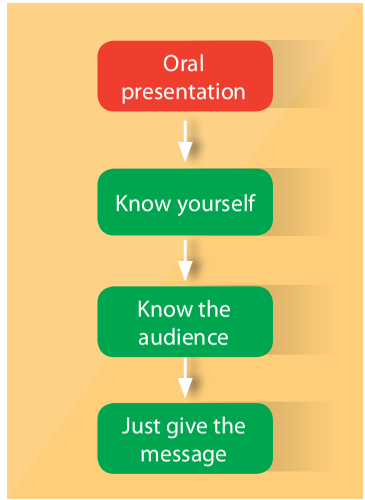
Results: In this section you should summarize the main results of your study in data format. Give the most important results that will inform your conclusion. You can also include a small table dependent on the guidelines.

Conclusion(s): This section shows what your results mean. What is the clinical relevance of your study and suggestions for future works? Summarize important implications that are supportable by the findings of your study

ORAL PRESENTATIONS

Clinical researchers make oral presentations throughout their careers, unless they specifically avoid doing so. An oral presentation is an art of speech, which includes the narrator, the presentation, and the listener. This art can be acquired if you practice, and make presentations as part of your career.

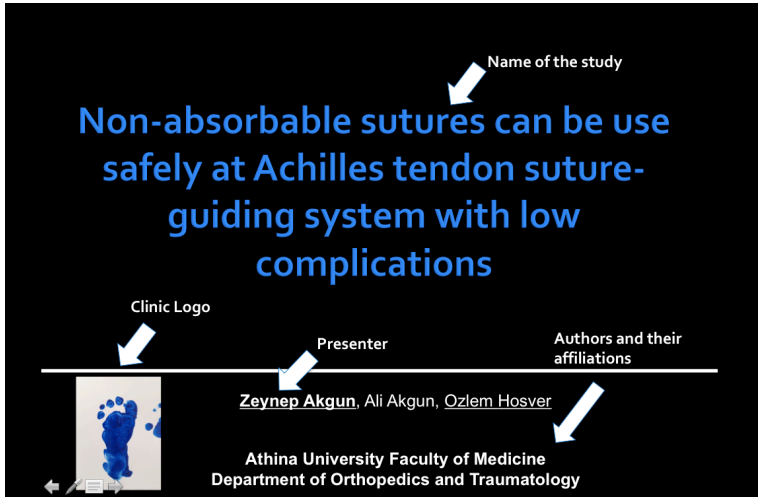
The basic principles for the narrator from every level are detailed below, but for experienced researchers these rules are flexible. Good speakers have some specification; one can control excitement, have full knowledge of the specific subject, have high communication skills, and can use body language efficiently. Good presentation has to be specific, and give the message clearly. Messages should be given clearly and engage the audience.



PRESENTATION SEQUENCE

When preparing a presentation, the number of slides should be set according to the given time. Time should be set between 20 seconds and 1 minute on each slide, depending on the duration of the speech. The length of the speech should be set to 1 minute before the given time, to take into account possible disruptions. When the time is exceeded, attention is distracted and the audience starts to lose interest.

First slide: It is not good start by thanking all of the individuals involved in the work on the first slide of the presentation. This can cause distraction amongst the audience. The name of the institution, and the name of the speaker, alongside the title of the presentation, are usually sufficient for the first slide. A conflict of interest slide is also a requirement.



Introduction: Briefly describe the problem that you are experiencing in one or two slides, and talk about how you are approaching the problem. If there is important relevant and ongoing research, use citations. Try 60 words and 6 lines in non-visual slides. Use up to 32 pt for the main title, 28 pt for first level items, 24 pt for second-page items and 10-11 pt for the bibliography.

Materials and methods*:* Talk about how you are approaching the problem that you stated in the introduction, and how you are looking for answers.

Results*:* In this section, talk about the demographic and other characteristics of your working group. Do not try to include all the data you have obtained in the study, just state the important data. Roll up the numbers to avoid boring the audience with decimals.

Visuals in slides*:* Use of visuals in slides (pictures, graphics) helps to attract the attention of the audience. Using visuals is more powerful than written expression, but using both at the same time will provide maximum effectiveness. The images should be absolutely relevant to the presentation.

Graphics*:* Choose graphics according to the type of data you want to transfer and the message you want to convey. While linear graphs better show the relevance of two increasing data, column graphs are influential in showing the intergroup differences. Pie charts effectively show proportional distributions within a group.

Charts*:* Charts should be clear enough that you do not need to make any further explanations.

PREPARATION AND REHEARSAL

The ability to overcome the fear of speaking depends mainly upon making correct, timely preparations for the speech and gaining experience by rehearsing the presentation. If the speaker does not prepare enough, and has little knowledge about the subject, he/she will be worried or afraid, so it is quite normal to make mistakes.

Preparing a presentation based on detailed research on the subject and acquiring familiarity with the subject, within a certain period, will provide you with the feeling of safety in front of the audience. The details about a speech are best remembered via rehearsal, so that the speaker feels comfortable knowing that there is little chance of making mistakes. Physical movements to relax the body and exercises to open the voice before the presentation reduce tension. Practicing in front of a mirror can help to improve gestures and body language.

BREATHING EXERCISES

Correct breathing by the narrator has a positive effect both on his or her voice during the presentation, and their body posture.

In order to do breathing exercises, the speaker must first relax the throat. To do this, stretch slowly or open and close your mouth frequently, and keep your mouth open for a while to relieve your throat and your voice. Put one hand on your stomach while the other hand is on your chest. Use the diaphragm and take a deep breath from the nose, and exhale from your mouth slowly. Another way to relax the throat is to smile. It helps you to feel all your facial muscles in order to breathe correctly, to feel the tension and then the relief.

DURING THE PRESENTATION

It is best to stand where the audience can see you comfortably on the stage. Presentation needs to be constructed in such a way that it keeps the interest of the listeners. Listeners' interest begins to decrease after 10 minutes. You have to create an emotional effect to retain and regain interest. You can provide the emotional effect with jokes and anecdotes, thereby activating their imaginations.

Establish eye contact with the listeners. If you get distracted, pick a listener and go on for 10 seconds until you get a reaction from them. Body language has a 55%, voice tone has a 35% and your words have a 10% role in the transmission of your message. To use your voice tone in the most effective way, it is better to talk loudly and articulately at your natural tone and speed. When using body language, try to stay away from closed body postures, such as putting your arms in front or back, putting hands on your cheek, or locking your wrists (which indicates insecurity and unwillingness to communicate). Open body postures, such as hands opening to the side, mean that you are comfortable and open to communication, while hands tied in the shape of a roof, or hands placed on the waist mean you are dominating the crowd.

Importantly, prepare for the question and answer section and think ahead about possible questions.

MANUSCRIPT SUBMISSION

WRITING A PAPER - AUTHORSHIP AND MISCONDUCT

Do not forget 'Publish or Perish' Performing and publishing scientific studies is a requirement for any scientist. In philosophy, authorship is a definitive term, but in practice it often causes problems. Listing the authors tells readers who did the work and should ensure that the right people get the credit alongside the responsibility. Although journal editors do not always agree among themselves on what constitutes authorship, many of them subscribe to the guidance from the International Committee of Medical Journal Editors (ICMJE) [9]. The ICMJE recommends that authorship be based on the following four criteria:

a) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
b) Drafting the work or revising it critically for important intellectual content; AND
c) Final approval of the version to be published; AND
d) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

In addition to being accountable for the parts of the work he or she has done, an author should be able to identify which co-authors are responsible for specific other parts of the work. In addition, authors should have confidence in the integrity of the contributions of their co-authors.

All those designated as authors should meet all four criteria for authorship, and all who meet the four criteria should be identified as authors.

However, when it comes to the order of authorship, a'Grey zone' occurs.

It is important for young authors to understand that there are two positions, which are important, the first author and last author.

When you look at the papers anatomy, the first thing you see is the first author's name. For this reason, you may receive requests from other authors to be named as the "first" author. This practice is quite common and the authors may have reasonable reasons for the request. In some countries and disciplines only the first-named and corresponding authors receive academic credit for the article. They may make this request where two or more authors truly feel that they made an equal contribution to the article and want to be rewarded.

In many countries, the "second" author also has a meaning; First author is a young member of the team who did most of the work, last author is the mentor of the study, while the second author is the second hardest worker after the young member who made all the effort, including writing of the manuscript. Our suggestion is to establish the Authors order in the first phases of the study, so that you will not have further discussion later.

The best combination for a young author is to be the first author and the corresponding author. As an authors' career progresses, they become the last author and author for correspondence, which indicates that they are responsible for its contents. If a young author makes major contributions to the paper, hence he/she is designated as the first author. The guidelines here are not as well defined as for authorship in general; Riesenberg and Lundberg [10] have made certain very important and simple suggestions to decide the order of authorship:

1. The first author should be the person who contributed most to the work, including writing of the manuscript.
2. The order of other authors should be determined by the relative overall contributions to the manuscript.
3. It is common practice to have the senior author appear last and this happens sometimes regardless of his or her contribution. The senior author, like all other authors, should meet all criteria for authorship (see ICMJE guidelines above).
4. The senior author sometimes takes responsibility for writing the paper, especially when the research student has not yet learned the skills of scientific writing. The senior author then becomes the corresponding author. But what about the student? Will he or she be the first author? Some supervisors put their students first; others put their own names first. Perhaps it should be decided on the absolute amount of time spent on the project by the student and the supervisor. Or perhaps the supervisor should be satisfied with being corresponding author, regardless of time committed to the project.
5. A sensible policy adopted by many supervisors is to give the student a fixed period of time, usually 6 months, to write the first draft of the paper. If the student does not deliver, the supervisor may then write the paper and put her or his own name first.

GUEST OR GIFT AUTHORS

A guest author is somebody who did not contribute in any way to the research and writing, but is included in the author list because he or she might have extra credibility on the article or has a privilege among the authors [11,12].

Guest or gift authorship is quite common. A frequent example is where the head of the department is commonly named in all articles. In some regions of the world, this is not only expected but is also required. Thus, many authors do not appreciate this and they consider this unethical [13,14].

MISSING AUTHORS AND AUTHOR ORDER CHANGE

This can easily produce chaos. It is impossible for Editors to notice a missing author. However, omitted authors can come to light during peer review or after publication. To avoid such problems, all named authors should be sent a copy of the submitted manuscript

and accepted article to ensure that they approve the author lists. The Editorial manager submission system automates this process by alerting all authors entered into the submission system that the manuscript has been received. This should ensure that all the authors are happy with their position in the author list, and they will tell you if someone has been missed off the list. However, if the authors are arguing with each other then there is no way to foresee the exclusion of someone. Our advice is not add or change the order of the authors after submission otherwise even if you produce a perfect work, it will seem to be worthless.

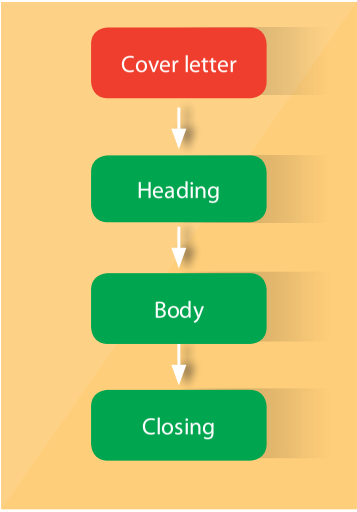
DO'S AND DON'TS FOR A GREAT COVER LETTER

The cover letter should not only state that the paper is not being considered elsewhere, it should also represent the permission of all the co-authors that they are totally encouraged about the work, and why you think it would be appropriate for the journal.

Editors want to know that you have selected their journal based on your familiarity with its focus and content and the appropriateness of your work to its scope and readership. The cover letter should be concise. Editors read many cover letters each day and may simply skim over letters that are longer than a few short paragraphs. Clearly emphasize why the research is important or interesting.

You should avoid presenting numeric details and other highly specific results if they are essential to your conclusion. Some journals have specific requirements for cover letters. Read the journal's "Instructions for Authors" carefully, and make sure that all required contents are included [15]. If your study builds on previous work that you have published, or directly relates to other papers published in the target journal, it is appropriate to mention this and to cite these studies in the letter.

The cover letter must be well written and should be free of spelling and grammar errors. If there are obvious errors, the Editor-in-Chief may assume that your manuscript will also be careless. At best, the Editor is likely to have low expectations for your manuscript if the cover letter is poorly written. You must always run a spelling and grammar check, and get a colleague to review your cover letter before you send it [1].



Heading: The heading includes the title of the study, the name of the journal, and the date.

Body: The body is the heart of the cover letter; this is where you will make the case for why your paper should be granted a peer review. Begin with a concise opening statement announcing that you are submitting a manuscript entitled for consideration as a Research Article, Letter, Technical Note, or other format fitted to the journal.

Next, provide a brief but convincing description or summary of the most important or interesting findings addressed by your manuscript. This summary will help to determine whether the Editor will consider your paper further. The summary should be limited to just a few sentences. Consider the following points to help you craft your summary: Why is your study important? And what are your most interesting findings?

After the description of your study, provide a brief statement of how or why the work is relevant to the scope of the target journal and of interest to its readership. This should be based on the stated "Aims and Scope" of the journal and on your knowledge of the journal's content. A strong statement says more than that you "believe" your findings are relevant and of interest. How does your work relate to the journal's focus and other research published in it? This section should show that you have made a well-informed choice when selecting the target journal for your manuscript.

The final paragraph of the body covers a few formalities. This paragraph should confirm that the research is original. The manuscript has not been published elsewhere and is not under consideration by any other journal. All the authors have approved the submission of the manuscript to this journal. There are no undeclared conflicts of interest.

Closing: The final sentence should simply express appreciation for the Editor's consideration. For example, "Thank you for your consideration of our manuscript. I look forward to hearing from you." An appropriate and common closing is "Sincerely." The closing is followed by your signature and typed name, institutional affiliation and address, and contact information

Below is an example cover letter that you can use for journal submission.

'Dear Editor:

Heading

We hereby submit a manuscript entitled, '**Low pH irrigation fluids have positive effect on healing of intra-articular chondral healing: In vivo experimental study**' for consideration as a Research Article fitted to the '**Knee Surgery Traumatology and Arthroscopy Journal**'.

Body

Ringer Lactate (RL) solution is widely used for arthroscopic surgery and its pH values vary between 5.9-6.4, which is significantly acidic in comparison with the physiological pH of knee which is around 7.2. Due to the non-physiological pH of the arthroscopy solution, negative effects on healing process can be expected. To our knowledge no study has investigated the effects of low pH irrigation solutions on fibrous cartilage formation.

The aim of this research study on rats was to evaluate the effects of RL solutions with different pH values on the early histologic healing in a microfracture model *in vivo*.

We have submitted our article online on your website. Our article is original and is not under consideration by another journal. Also the material in the article has not been published previously and all authors agree as to the content. All authors were fully involved throughout the study and preparation of the manuscript and the material within has not been and will not be submitted for publication elsewhere.

Closing

We would be pleased if you would consider this article for your journal.

Thank you, I look forward to hearing from you.

Sincerely,

CORRESPONDING WITH EDITORS AND REVIEWERS

Communicating with Editors can be challenging, since correspondence with them is so important in determining whether your paper gets published. Understanding what the Editor is trying to achieve through their decisions on individual manuscripts can help you to deliver your message more effectively. First, think simply, write simply and communicate simply. Second, the most common error is lack of consistency. Sometimes studies focus on many different questions, and their rationale is unclear. Be concise: no one wants to read excessively long studies.

It is important to be professional in submitting your work. Carefully read the "Instructions to Authors" associated with the journal [15]. A common mistake is for authors to fail to format the submission according to the journal's style. Each journal has its own standard. In particular, it is important to format the references and citations to conform to the journal's practice.

Editors immediately see when a manuscript doesn't follow the journal's style or conform to the submission requirements. They will conclude that you are not "detail oriented". This is not a good first impression to make to Editors and Reviewers about your paper.

TIPS TO GET A FRIENDLY REVIEWER RESPONSE

Peer review has a vital role in research and publishing and the key step of this process is the revision of your paper [16]. However, knowing how to respond to reviewers' comments isn't always easy. So what can you do to increase your chances of success?

First, authors should accept that disagreement is fine and it is actually part of the process. The author may not agree with reviewers' comments and this is the principle of the scientific discussion, a natural part of the business.

Second, reviewers see whether the paper is within the scope of the journal, whether the study is good, and that the paper meets the standards of the journal. At a manuscript text level, the reviewers' priorities are to check the article's internal consistency. Do the methods, results and conclusions match? A common weakness is that the different sections appear to have been written independently of each other. If the paper is organized it is raised to a whole new level. Other items they look for are appropriateness of the title, abstracts and conclusions, and references.

While reviewers are not responsible for detecting plagiarism, fraud and other ethical issues, in practice they often perform checks for these. The majority of papers submitted via editorial management systems are now also automatically loaded into a proprietary program that checks textual overlap with the rest of the published literature ("plagiarism") back to the early 1990s [17].

Although Editors and Reviewers can make mistakes, manuscripts are not rejected without a reason. In the case of borderline rejections, at least three pairs of eyes (the Editor and two Reviewers) have looked at your paper, and there is a conjunction of opinion. On average, each Reviewer spends four hours reviewing a paper, which means eight hours of free, expert consultancy, which is something that is hard to ignore. We all have to respect them.

If you really think you have a case that your paper should have been accepted, you can go back to the Editor. But in the majority of cases, authors do this because they simply cannot emotionally accept the rejection. If you really want to make an objection, be careful not to be personal in your comments and ensure your rebuttal is polite, scientific and fact-based.

REVISING A SUBMITTED PAPER

Revising a submitted paper is an important part of the manuscript submission and acceptance process. When revising a paper, several things need to be considered to maximise your chances of success, with resultant publication of your study. Even though the revision process can sometimes appear easy and straightforward, most of the time the revision process is a challenging and stressful process.

The goal of this chapter is to present different strategies for making a successful revision of a submitted paper. The different steps of this process are outlined in detail, starting with the creation of a strategy for the revision, formulating a response letter to the Editor, framing a step-by-step response to the Reviewers' comments, and, finally, to improve the rejected paper and aim for a resubmission.

CREATING A STRATEGY FOR REVISION

The moment of truth has come, and the Editor and Reviewers have sent the authors the decision letter.

The first step in creating a strategy for the revision is to read in detail all the comments made by the Editor and Reviewers and understand the rationale for the decision they have made. This is important because without a good understanding of their comments and suggestions it is unlikely that the revision will lead to success.

One of the major problems that most authors face when receiving the comments on their study is that they feel that the Reviewers are being over-critical and unfair about their work. However, it is important to understand that this is not a personal battle. Most journals with a peer-review process follow the blind system where the Reviewers do not know the names of the authors. More importantly, it is the task of the Reviewers to

identify limitations and to be critical of the study - it is part of their job. Therefore, the first step for a successful revision is for the authors to read through the comments and to put aside the personal emotional aspect that any comment on their own work can create. It is extremely rare that a paper would be accepted with the first attempt without any revision needed. Even the most experienced researchers, with hundreds of publications, will require to have their paper revised at least once [18].

The next step is to start formulating the approach and the strategy that the authors will follow in the response to the comments [19]. This is dependent on the type of decision for the manuscript. There are different types of response and this is also dependent on the journal. Most commonly the decision letter will require:

- Minor revisions
- Major revisions
- Reject and resubmit

MINOR REVISIONS

In this case, the Editor and the Reviewers most probably liked the submission and they are requesting some revisions in the form of additional clarifications or additional information, or in the form of presentation. Manuscripts that are flagged for minor revision are most likely to be finally accepted, so the authors have the advantage here [20]. It is important for the strategy to recognize the topics and suggestions that made the Editor decide that the manuscript needed some revision (even minor) and should not be accepted. In this case, the authors should ensure that they address all comments and that they adequately revise the manuscript accordingly.

MAJOR REVISIONS

In this case, the Editor and the Reviewers like certain aspects of the manuscript; but there are certain aspects that they do not like. It is important in the strategy to recognize the strengths of the submitted work and the limitations that needed to be improved. In some cases, the authors can see from the comments that there is disagreement between the Reviewers [20]. For example, the first Reviewer has only good things to say, while the second Reviewer is expressing his or her disappointment in the quality of the submitted work. In this case, the authors should focus more on the unhappy Reviewer and try to understand why he or she did not like the paper.

REJECT AND RESUBMIT

In this case, the strategy is extremely important. This decision means that the Editor and the Reviewers require a major change to the manuscript, and even the study, so as to consider evaluating it again [20]. The authors need to read the comments of the reviewers carefully to determine whether the changes that are requested are possible. This decision typically requires the performance of additional studies or sometimes a new study design. It is rare that the Editor would reach this decision if changes in the presentation or some additional data only were needed [21,22]. The authors should be aware that Reviewers submit private comments to the Editor that are not revealed to them. Therefore, in formulating the strategy, it is important for the authors to understand that the revised manuscript will need significant work and presentation of almost a new paper. The positive message in this case is that the Editor recognizes some value to this work and is willing to review a much-improved version of the manuscript.

In all such cases, it is important for the authors to categorize the comments into:

- **Comments that can be addressed by re-analysing or presenting the existing data in a different manner.** These comments need to be incorporated into the revised manuscript and careful interpretation should be made.
- **Comments that necessitate changes in the current study design or new studies.** For these comments, it is important

that the authors decide whether they will proceed with the new experiments or not. Sometimes, it is important to perform these experiments not only for this submission, but because these additional studies would improve the quality of the work. However, this decision should be carefully taken, since conducting this extra work will not necessarily ensure publication of the manuscript. In addition, the fact that a Reviewer suggests an experiment does not necessarily mean that this is the proper experiment for a certain outcome.

- **Comments that cannot be addressed** (for example, a comment about a prospective study design in a retrospective study). These comments need to be handled with extreme caution. The authors need to include these comments in the limitations of the study with an explanation that answers the comment and justifies the decision of the authors.

HOW TO WRITE A RESPONSE LETTER TO THE EDITOR

The next step for the authors in the revised submission is to write the response letter to the Editor. Even though the importance of the cover letter is often underestimated, it is essential for the authors to understand that the Editor is the person who will advise in favour or against publication of their study. As a consequence, spending time to format a detailed letter to the Editor is of paramount importance [21,22].

This letter should contain the following:

- **Acknowledgement of the comments and suggestions in a positive spirit**. The Editor should be able to tell from the authors' response that they have identified the limitations that the Reviewers pointed out, and that they have understood the analysis of the paper. It is important for the authors to be polite, constructive and to avoid negative comments [19,21,22]. (The Editor knows who the Reviewers are, and is aware whether they were being unfair or wrong. However, the Editor will rarely express his or her views about a Reviewer, and if the authors express criticism the editor most likely feel the need to defend his or her professional colleague. Therefore, expressing complaints or negativism in the letter would be considered a disadvantage.)
- **A brief explanation of the major changes included in the revised manuscript**. If the authors have addressed all the comments of the Reviewers, they should state this. Also, if they have decided not to address something, the letter to the Editor is where they should explain why [19,21,22].
- **A brief presentation of the results or the findings that are new**. The authors should be careful not to be repetitive in their letter. The Editor will read the response to the comments and the revised manuscript. It is problematic to have a long letter with repetitive information. The authors should keep the letter concise, describing only the core information of the revised manuscript and their responses. The letter to the Editor is the first thing that the editor will read when receiving the author's response. It should be simple, explanatory, and serve as an introduction to your revised items.

HOW TO RESPOND TO COMMENTS FROM PEER REVIEWERS

One of the most challenging things for authors in manuscript revision is to respond to the Reviewers. As stated above, this is a process that should be free of emotion. The Reviewers' task is to identify the weaknesses of the manuscript. The authors should consider that most Reviewers have volunteered to review for a journal and that they have limited time. As a consequence, some comments that appear as unfair may be due to poor understanding. The authors should read the submitted version of the manuscript and be open-minded about recognizing whether certain aspects of their study were clearly explained or not. The authors should understand that the reviewer did not know

anything about the study, the methods and the rationale prior to reading the manuscript. It is the authors' responsibility to outline the methodology, to describe all necessary details and to present all information related to the study, so that the Reviewer reading the manuscript for the first time should be able to understand the experimental process [19,21,22].

The first step in writing the response letter is to organize the response so as to be simple and clear [19]. It is extremely important that the Editor and Reviewers reading the response to the comments are be able to understand both the response and the changes made in the revised manuscript soley by reading the response letter. For this reason the most common format to respond to the comments is to identify the comments and to separate them and then cite the response and changes below it.

An example cover letter to the Editor about manuscript revision is as follows:

MANUSCRIPT REVISION: COVER LETTER TO EDITOR

Ref.: Ms. No. KSST-D-XX-YYY

Dear Editor,

I wish to convey my special thanks to you for reviewing our manuscript.

The authors have revised the manuscript according to the comments of the Reviewers. Below, I have addressed each of the concerns raised by the Reviewers and outlined where changes have been incorporated.

Thank you for reviewing our manuscript and I look forward to your response.

Sincerely,

Reviewers' comments: Please make sure that the manuscript is read and corrected by a native English-speaker before resubmission. This is very important to ensure that the paper is sent for production in the correct language. This must be done before online publication.

Response: We agree with the Reviewer's comment, and have made all changes as suggested.

In general, the authors should attempt to address all the comments. Most of the time, additional information is necessary or clarification of something that was misinterpreted by the Reviewers provided. The authors should acknowledge the time that the Reviewers have spent on their manuscript and make any possible effort to make the changes clear and simple to avoid confusion [19]. Every response should provide an answer to the comment and the changes made based on the comment (if any) should be included in the response. This will please the Editor and the Reviewer, as they will be able to read everything within the same document.

As for the changes that are requested, the authors should make the changes if these are justified and reasonable. One of the common errors that authors make is that they try to make all changes requested. This can result in conflicting data or not well-supported methods/results. The authors should be encouraged to express their views and to support their methodology and results. It is preferable to provide well-supported arguments that convince the Editor and the Reviewer of the validity of your data, rather than accepting something that might be incorrect. The authors should always use evidence from the literature to support their thesis in case of possible argument.

After answering all comments, it is helpful not to submit them immediately. Sometimes, it is important to have a fresh look at

the responses, so as to identify any errors, or to appreciate that a response may not be ideal. In addition, it is useful to arrange a final co-author meeting prior to submission to ensure that everyone has the same understanding and approach to the revision.

HOW TO IMPROVE A REJECTED PAPER

The last part of this chapter will address the actions that are required in the unfortunate scenario of manuscript rejection. The most important thing is for the author not to lose faith and to be appreciative of the time that they spent conducting the study. Rejection does not necessarily mean that the quality of the work is poor. Most of the time the rejection is due to poor presentation of the work, or poor selection of the journal to which is was submitted [18,20,21].

The authors should start the re-submission process by studying the literature again. Most of the time, the relevant studies provide an unlimited resource for new ideas, for identifying technical errors, and for understanding the missing data in the field that the upcoming study has to provide. Also, it will serve to provide a list of journals that may be candidates for re-submission.

One of the most common errors that authors make is that they submit their manuscript into a different journal without addressing the comments made by the previous Reviewers. This is a major setback, as the rejection decision typically means that the manuscript did not meet some of the basic standards for publication consideration. As a consequence, it is possible that the Reviewers of the new journal will make similar requests and comments. It is an enormous advantage to have "listened" to the opinions of some experts in the field about the manuscript. It is important to consider these, prior to submitting to another group of experts in the same field.

Another common error is improper manuscript format. If the authors decide to resubmit elsewhere, they need to change the format of the manuscript to fit the requirements of the new journal. Otherwise, the Editor and Reviewers will identify

the un-revised format and will know that this paper has been submitted elsewhere and, therefore, previously rejected. This will probably bias them negatively about the submitted work.

Lastly, the purpose of the peer-review process is to improve the quality of published scientific work. It is known that a high percentage of published work cannot be repeated. This may be due to random or systematic errors in the process of data collection and analysis that are difficult to prevent. It is the same reason why the different levels of evidence have a different possibility of unintentional error. For example, a randomized controlled trial (level 1) is less likely to be incorrect than expert opinion (level 5), due to the fact that the study design minimizes the risk of bias and systematic error. The peer review process serves the same purpose: to improve the quality of the published work via a screening process conducted by multiple experts in the field. Therefore, the authors should make every possible attempt to improve the quality of their study prior re-submission.

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