Global Spine Journal

Manuscript Submission Guidelines

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*PLEASE NOTE THAT GLOBAL SPINE JOURNAL NO LONGER ACCEPTS CASE REPORTS.*

This Journal is a member of the Committee on Publication Ethics.

This Journal recommends that authors follow the Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals formulated by the International Committee of Medical Journal Editors (ICMJE).

Please read the guidelines below then visit the journal’s submission site http://mc.manuscriptcentral.com/gsjournal to upload your manuscript. Please note that manuscripts not conforming to these guidelines may be returned.

Only manuscripts of sufficient quality that meet the aims and scope of Global Spine Journal will be reviewed.

As part of the submission process you will be required to warrant that you are submitting your original work, that you have the rights in the work, that you are submitting the work for first publication in the Journal and that it is not being considered for publication elsewhere and has not already been published elsewhere, and that you have obtained and can supply all necessary permissions for the reproduction of any copyright works not owned by you.

1. Open Access

Global Spine Journal is an open access, peer-reviewed journal. Each article accepted by peer review is made freely available online immediately upon publication, is published under a Creative Commons license and will be hosted online in perpetuity. Publication costs of the journal are covered by the collection of article processing charges which are paid by the funder, institution or author of each manuscript upon acceptance. There is no charge for submitting a paper to the journal.

For general information on open access at SAGE please visit the Open Access page or view our Open Access FAQs.

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2. Article processing charge (APC)

If, after peer review, your manuscript is accepted for publication, a one-time article processing charge (APC) is payable. This APC covers the cost of publication and ensures that your article will be freely available online in perpetuity under a Creative Commons license.

The article processing charge (APC) for AOSpine members is $0. The cost for non-members is $1500.

As a member benefit for AOSpine members, the APC is waived for all manuscripts where at least one author listed on the paper is an AOSpine member. If none of the authors are members, you can either pay the fee of $1,500 or choose to join AOSpine and pay their membership fee which is significantly less than the APC. Once you join AOSpine and as long as you remain a member, you will not have to pay any fees for all future articles that you submit. The fee for one year of membership with AOSpine is currently $105. For more information on AOSpine membership, please email membership@aospine.org

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3. What do we publish?

3.1 Aims & scope
Before submitting your manuscript to Global Spine Journal, please ensure you have read the Aims & Scope.

3.2 Article types
Global Spine Journal features two sections: Global Spine Journal (GSJ) and Evidence-Based Spine-Care Journal (EBSJ). EBSJ is a special section featured in each issue. When submitting your manuscript, please indicate which section you will be submitting to (see the article types below).

<table>
<thead>
<tr>
<th>Article Type</th>
<th>Abstract Limit</th>
<th>Keyword Limit</th>
<th>Title Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSJ- Original Article</td>
<td>Up to 250 Words</td>
<td>4 to 8 Keywords</td>
<td>No Limit</td>
</tr>
<tr>
<td>GSJ- Review</td>
<td>Up to 250 Words</td>
<td>4 to 8 Keywords</td>
<td>No Limit</td>
</tr>
<tr>
<td>EBSJ- Original Research</td>
<td>Up to 250 Words</td>
<td>4 to 8 Keywords</td>
<td>No Limit</td>
</tr>
<tr>
<td>EBSJ- Review</td>
<td>Up to 250 Words</td>
<td>4 to 8 Keywords</td>
<td>No Limit</td>
</tr>
</tbody>
</table>

3.3 Writing your paper
The SAGE Author Gateway has some general advice and on how to get published, plus links to further resources.

3.3.1 Making your article discoverable
When writing up your paper, think about how you can make it discoverable. The title, keywords and abstract are key to ensuring readers find your article through search engines such as Google. For information and guidance on how best to title your article, write your abstract and select your keywords, have a look at this page on the Gateway: How to Help Readers Find Your Article Online

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4. Editorial policies

4.1 Peer review policy
The journal’s policy is to have manuscripts reviewed by three expert reviewers. Global Spine Journal utilizes a double-blind peer review process in which the reviewer and author’s names and information are withheld from the other. All manuscripts are reviewed as rapidly as possible, while maintaining rigor. Reviewers make comments to the author and recommendations to a Deputy Editor. The Deputy Editor then makes a recommendation to the Editor-in-Chief who then makes the final decision. Once the Editor-in-Chief makes a decision the paper is then returned to the author with all of the comments.

Global Spine Journal is committed to delivering high quality, fast peer-review for your paper, and as such has partnered with Publons. Publons is a third party service that seeks to track, verify and give credit for peer review. Reviewers for Global Spine Journal can opt in to Publons in order to claim their reviews or have them automatically verified and added to their reviewer profile. Reviewers claiming credit for their review will be associated with the relevant journal,
but the article name, reviewer’s decision and the content of their review is not published on the site. For more information visit the Publons website.

The Editor or members of the Editorial Board may occasionally submit their own manuscripts for possible publication in the journal. In these cases, the peer review process will be managed by alternative members of the Board and the submitting Editor/Board member will have no involvement in the decision-making process.

4.2 Authorship
Papers should only be submitted for consideration once consent is given by all contributing authors. Those submitting papers should carefully check that all those whose work contributed to the paper are acknowledged as contributing authors. The list of authors should include all those who can legitimately claim authorship. This is all those who:

(i) Made a substantial contribution to the concept or design of the work; or acquisition, analysis or interpretation of data,
(ii) Drafted the article or revised it critically for important intellectual content,
(iii) Approved the version to be published,
(iv) Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.

Authors should meet the conditions of all of the points above. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.
When a large, multicentre group has conducted the work, the group should identify the individuals who accept direct responsibility for the manuscript. These individuals should fully meet the criteria for authorship.

Acquisition of funding, collection of data, or general supervision of the research group alone does not constitute authorship, although all contributors who do not meet the criteria for authorship should be listed in the Acknowledgments section. Please refer to the International Committee of Medical Journal Editors (ICMJE) authorship guidelines for more information on authorship.

4.3 Acknowledgements
All contributors who do not meet the criteria for authorship should be listed in an Acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, or a department chair who provided only general support.

4.3.1 Writing assistance
Individuals who provided writing assistance, e.g. from a specialist communications company, do not qualify as authors and so should be included in the Acknowledgements section. Authors must disclose any writing assistance – including the individual’s name, company and level of input – and identify the entity that paid for this assistance.
It is not necessary to disclose use of language polishing services.

Please supply any personal acknowledgements separately to the main text to facilitate anonymous peer review. Also, please note that your title page with author information should be uploaded as a separate document in order to ensure a blind review process. Please do not put any personal information in the file names or anywhere else other than the title page.

4.4 Funding
Global Spine Journal requires all authors to acknowledge their funding in a consistent fashion under a separate heading. Please visit the Funding Acknowledgements page on the SAGE Journal Author Gateway to confirm the format of the acknowledgment text in the event of funding, or state that: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Please provide a statement disclosing any funding received in the title page or at the end of the paper. If there was none, this also must be stated in the title page or at the end of the paper.

4.5 Declaration of conflicting interests
It is the policy of Global Spine Journal to require a declaration of conflicting interests from all authors enabling a statement to be carried within the paginated pages of all published articles.

Please ensure that a ‘Declaration of Conflicting Interests’ statement is included at the end of your manuscript, after any acknowledgements and prior to the references. If no conflict exists, please state that ‘The Author(s) declare(s) that there is no conflict of interest’.

For guidance on conflict of interest statements, please see the ICMJE recommendations.

4.6 Research ethics and patient consent
Medical research involving human subjects must be conducted according to the World Medical Association Declaration of Helsinki.

Submitted manuscripts should conform to the ICMJE Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals, and all papers reporting animal and/or human studies must state in the methods section that the relevant Ethics Committee or Institutional Review Board provided (or waived) approval. Please ensure that you have provided the full name and institution of the review committee, in addition to the approval number.

For research articles, authors are also required to state in the methods section whether participants provided informed consent and whether the consent was written or verbal.

Information on informed consent to report individual cases or case series should be included in the manuscript text. A statement is required regarding whether written informed consent for
patient information and images to be published was provided by the patient(s) or a legally authorized representative.

Please also refer to the ICMJE Recommendations for the Protection of Research Participants

All research involving animals submitted for publication must be approved by an ethics committee with oversight of the facility in which the studies were conducted. The journal has adopted the Consensus Author Guidelines on Animal Ethics and Welfare for Veterinary Journals published by the International Association of Veterinary Editors.

4.7 Clinical trials

Global Spine Journal conforms to the ICMJE requirement that clinical trials are registered in a WHO-approved public trials registry at or before the time of first patient enrolment as a condition of consideration for publication. The trial registry name and URL, and registration number must be included at the end of the abstract.

4.8 Reporting guidelines

The relevant EQUATOR Network reporting guidelines should be followed depending on the type of study. For example, all randomized controlled trials submitted for publication should include a completed CONSORT flow chart as a cited figure and the completed CONSORT checklist should be uploaded with your submission as a supplementary file. Systematic reviews and meta-analyses should include the completed PRISMA flow chart as a cited figure and the completed PRISMA checklist should be uploaded with your submission as a supplementary file. The EQUATOR wizard can help you identify the appropriate guideline.

Other resources can be found at NLM’s Research Reporting Guidelines and Initiatives.

5. Publishing policies

5.1 Publication ethics

SAGE is committed to upholding the integrity of the academic record. We encourage authors to refer to the Committee on Publication Ethics’ International Standards for Authors and view the Publication Ethics page on the SAGE Author Gateway.

5.1.1 Plagiarism

Global Spine Journal and SAGE take issues of copyright infringement, plagiarism or other breaches of best practice in publication very seriously. We seek to protect the rights of our authors and we always investigate claims of plagiarism or misuse of published articles. Equally, we seek to protect the reputation of the journal against malpractice. Submitted articles may be checked with duplication-checking software. Where an article, for example, is found to have plagiarized other work or included third-party copyright material without permission or with insufficient acknowledgement, or where the authorship of the article is contested, we reserve the right to take action including, but not limited to: publishing an erratum or corrigendum
(correction); retracting the article; taking up the matter with the head of department or dean of the author's institution and/or relevant academic bodies or societies; or taking appropriate legal action. Please also note that self-plagiarism is considered plagiarism; even if you are using your own work as a source, it must be re-written and cannot be directly copied. Every new manuscript is run through a plagiarism software. If significant plagiarism is found, the article will be immediately returned to the author.

5.1.2 Prior publication
If material has been previously published, it is not generally acceptable for publication in a SAGE journal. However, there are certain circumstances where previously published material can be considered for publication. Please refer to the guidance on the SAGE Author Gateway or if in doubt, contact the Managing Editor at the address given below.

5.2 Contributor’s publishing agreement
Before publication SAGE requires the author as the rights holder to sign a Journal Contributor’s Publishing Agreement. Global Spine Journal publishes manuscripts under Creative Commons licenses. The standard license for the journal is Creative Commons by Attribution Non-Commercial (CC BY-NC), which allows others to re-use the work without permission as long as the work is properly referenced and the use is non-commercial. For more information, you are advised to visit SAGE’s OA licenses page. Alternative license arrangements are available, for example, to meet particular funder mandates, made at the author’s request.

6. Preparing your manuscript

Evidence-Based Spine-Care Journal (EBSJ) submissions have separate instructions for preparation, which you can find in the Appendix.

6.1 Word processing formats
Preferred formats for the text and tables of your manuscript are Word DOC, RTF, XLS. LaTeX files are also accepted. The text should be double-spaced throughout and with a minimum of 3cm for left and right hand margins and 5cm at head and foot. Text should be standard 10 or 12 point. Word and (La)TeX templates are available on the Manuscript Submission Guidelines page of our Author Gateway.

6.2 Artwork, figures and other graphics
For guidance on the preparation of illustrations, pictures and graphs in electronic format, please visit SAGE’s Manuscript Submission Guidelines.

- Figures supplied in color will appear in color online.
- Please make sure to include a figure legend for all figures. This can appear before your figures when you upload your manuscript.
• All images should be submitted in either .tiff or .jpeg format. All lateral images must be left-facing.
• Please do not embed figures or tables into the main document. Please instead upload and label your images and tables as individual files accordingly (IE: Figure 1, Figure 2)

6.3 Supplementary material
This journal is able to host additional materials online (e.g. datasets, podcasts, videos, images etc) alongside the full-text of the article. These will be subjected to peer-review alongside the article. For more information please refer to our guidelines on submitting supplementary files, which can be found within our Manuscript Submission Guidelines page.

6.4 Reference style
Global Spine Journal adheres to the AMA reference style. Please review the guidelines on AMA to ensure your manuscript conforms to this reference style.

If you use EndNote to manage references, you can download the AMA output file here.

6.5 English language editing services
Authors seeking assistance with English language editing, translation, or figure and manuscript formatting to fit the journal’s specifications should consider using SAGE Language Services. Visit SAGE Language Services on our Journal Author Gateway for further information.

7. Submitting your manuscript

7.1 How to submit your manuscript
Global Spine Journal is hosted on SAGE Track, a web based online submission and peer review system powered by ScholarOne™ Manuscripts. Visit http://mc.manuscriptcentral.com/gsjournal to login and submit your article online.

IMPORTANT: Please check whether you already have an account in the system before trying to create a new one. If you have reviewed or authored for the journal in the past year it is likely that you will have had an account created. For further guidance on submitting your manuscript online please visit ScholarOne Online Help.

7.2 Title, keywords and abstracts
Please supply a title, short title, an abstract and keywords to accompany your article. The title, keywords and abstract are key to ensuring readers find your article online through online search engines such as Google. Please refer to the information and guidance on how best to title your
article, write your abstract and select your keywords by visiting the SAGE Journal Author Gateway for guidelines on How to Help Readers Find Your Article Online.

Global Spine Journal requires a specific structured abstract. All abstracts must be structured as such:

- **Study Design**: (brief 2-3 words describing the article IE: Retrospective Cohort Study)
- **Objectives**
- **Methods**
- **Results**
- **Conclusions**

All manuscripts submitted without this specific structured abstract will be returned to the author so that it can be changed to conform to the GSJ required structure.

### 7.3 Information required for completing your submission

Provide full contact details for the corresponding author including email, mailing address and telephone numbers. Academic affiliations are required for all co-authors. These details should be presented separately to the main text of the article to facilitate anonymous peer review.

You will be asked to provide contact details and academic affiliations for all co-authors via the submission system and identify who is to be the corresponding author. These details must match what appears on your manuscript. At this stage please ensure you have included all the required statements and declarations and uploaded any additional supplementary files (including reporting guidelines where relevant).

### 7.4 ORCID

As part of our commitment to ensuring an ethical, transparent and fair peer review process SAGE is a supporting member of ORCID, the Open Researcher and Contributor ID. ORCID provides a persistent digital identifier that distinguishes researchers from every other researcher and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between researchers and their professional activities ensuring that their work is recognized.

We encourage all authors to add their ORCIDs to their SAGE Track accounts and include their ORCIDs as part of the submission process. If you don’t already have one you can create one [here](#).

### 7.5 Permissions

Authors are responsible for obtaining permission from copyright holders for reproducing any illustrations, tables, figures or lengthy quotations previously published elsewhere. For further information including guidance on fair dealing for criticism and review, please visit our Frequently Asked Questions on the SAGE Journal Author Gateway.
8. On acceptance and publication
If your paper is accepted for publication after peer review, you will first be asked to complete the contributor’s publishing agreement. Once your manuscript files have been check for SAGE Production, the corresponding author will be asked to pay the article processing charge (APC) via a payment link if no authors are AOSpine members, or if no authors choose to join AOSpine. Once the APC has been processed, your article will be prepared for publication and can appear online within an average of 30 days. Please note that no production work will occur on your paper until the APC has been received. For the papers that are written by AOSpine members, the paper will go into production immediately, as no APC will be required.

8.1 SAGE Production
Your SAGE Production Editor will keep you informed as to your article’s progress throughout the production process. Proofs will be sent by PDF to the corresponding author and should be returned promptly. Authors are reminded to check their proofs carefully to confirm that all author information, including names, affiliations, sequence and contact details are correct, and that Funding and Conflict of Interest statements, if any, are accurate. Please note that if there are any changes to the author list at this stage all authors will be required to complete and sign a form authorizing the change.

8.2 Online publication
One of the many benefits of publishing your research in an open access journal is the speed to publication. With no page count constraints, your article will be published online in a fully citable form with a DOI number as soon as it has completed the production process. At this time it will be completely free to view and download for all. Check the ‘Online First’ tab on the journal website for the latest published content. Your article will later be assigned to a specific issue. Global Spine Journal currently publishes 8 paper issues per year. Please note that your article will not be indexed in PubMed until it has been assigned to an issue.

8.3 Promoting your article
Publication is not the end of the process! You can help disseminate your paper and ensure it is as widely read and cited as possible. The SAGE Author Gateway has numerous resources to help you promote your work. Visit the Promote Your Article page on the Gateway for tips and advice. In addition, SAGE is partnered with Kudos, a free service that allows authors to explain, enrich, share, and measure the impact of their article. Find out how to maximize your article’s impact with Kudos.

9. Further information
Any correspondence, queries or additional requests for information on the Manuscript Submission process should be sent to the Global Spine Journal Managing Editor as follows:
10. Appendix: Special EBSJ Instructions

Evidence-Based Spine-Care Journal (EBSJ) Specific Author Instructions

Evidence-Based Spine-Care Journal (EBSJ) is dedicated to finding, describing and developing the highest quality evidence. EBSJ focuses on comparative studies of effectiveness and seeks to stimulate further areas of high-quality spine-related research. In 2015, EBSJ and GSJ merged into one publication under the umbrella name of Global Spine Journal (they were previously 2 separate publications). EBSJ is now a featured special section that appears in each issue of GSJ. Each special section features 1-3 articles per issue comprised of Systematic, Narrative Reviews and Original Research. EBSJ follows the same technical instructions as GSJ however there are certain specifications and requirements that are specific to EBSJ only. These instructions below will outline these specifications that are unique to EBSJ.

**EBSJ Systematic reviews (EBSJ-SRs)**

EBSJ SRs follow a specific process and are not submitted to EBSJ as completed manuscripts; however, physicians and researchers interested in co-authoring an SR are encouraged to contact us with a topic of interest. SRs follow an explicitly stated methodical approach to answer specific focused key questions. SRs provide a comprehensive formal critical appraisal and synthesis of pertinent research studies on a specific clinical issue. If you are interested in co-authoring a systematic review, please contact us at globalspinejournal@aospine.org.

**Original Research Articles (All Study Types)**

EBSJ is a unique concept with regard to format and streamlined presentation of information. The goal is to provide an accurate, concise presentation of information that can be grasped “at-a-glance” by busy spine surgeons. (Please see example and templates). Your assistance in following the guidelines described here is important to reach this goal. Additional web-based appendices allow the interested reader to obtain additional information and verify study components. They also contain additional study data.

**EBSJ Author Instructions—Original Research Articles**

All original research articles must follow the same format for GSJ articles. Manuscripts not following the prescribed formats will be returned to the author prior to blind peer-review. All technical elements are the same for EBSJ and GSJ.

**Body of the manuscript—prognostic studies**

Please note the maximum word count and formatting of text described in each section (see also template).

**Study rationale and context—prognostic studies (maximum word count 50)**

This section should briefly describe the context and rationale for the study and lead logically into the statement of the study objective. It is not intended to provide a lengthy background or history.
Objective or clinical question—prognostic studies (maximum word count 40)
This should be a very brief statement that encompasses the PPO concept:

<table>
<thead>
<tr>
<th>Patients:</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, condition, diagnostic characteristics, etc.</td>
<td>Patients who had lumbar fusion for chronic low back pain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prognostic factors:</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>What primary factor is being evaluated as one which might be associated with a bad outcome?</td>
<td>Primary factor: NSAID use Other factors: smoking, age, levels fused, prior spine surgery</td>
</tr>
<tr>
<td>What other factors may be associated with a bad outcome?</td>
<td>Nonunion and longer time to fusion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome:</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the outcome?</td>
<td>Nonunion and longer time to fusion</td>
</tr>
</tbody>
</table>

Here is a statement of objective:
- To evaluate perioperative NSAID use as a risk factor for delayed union and nonunion following lumbar fusion in patients with chronic low back pain.

Here is how the clinical question might read:
- Does perioperative use of non-steroidal anti-inflammatory drugs (NSAIDS) result in nonunion and longer time to union following lumbar fusion in patients with chronic low back pain?

You might visit the AOSpine’s EBSS.live to see additional examples of PPO for prognostic studies as applied to already published research.

Methods—prognostic studies (maximum word count 300–325)
Please follow the format below for this section:
- Study design (e.g. retrospective cohort study)
- Objective/aim (clinical question, key question or hypothesis)
- Inclusion criteria
- Exclusion criteria
- Patient population
- Outcomes and prognostic factors
- Analysis

Prognostic studies explore risk factors (also known as risk exposures) for an outcome, generally a less than desirable outcome. An example of a prognostic question would be: Does smoking increase the risk of nonunion following fracture treatment? With regard to methods and study design, it may be important to consider and control for other factors which may be associated with smoking and associated with nonunion.
There should be sufficient information regarding study design, inclusion/exclusion criteria and what factors and how they were explored to permit study replication. For prognostic studies, the following information should be described:

- Study design and outcome(s) of interest
- Factors which may influence that outcome
- Inclusion/exclusion criteria (including how comparison group was chosen)
- Protocol for evaluation of patients
- Measurement instruments for outcome and factors (exposures) that may be associated with it
- Length of follow-up
- Methods for statistical evaluation, including description of how confounding was controlled that would allow for replication of the study by another investigator

A brief description of treatment characteristics (type, duration etc.) should be provided. Remember that additional detailed information for this section can be included in the web appendix.

The methods for each study accepted for publication will be independently reviewed and an overall “class of evidence” will be assessed based on methodological quality. Authors should ensure that there is sufficient information in the submission (article and/or web appendix) that allows for this assessment.

EBSJ strongly encourages authors to follow guidelines for reporting described by CONSORT and others to ensure the highest quality reporting. Selected references are provided at the end of this document.

The methods section must include the following information on the numbers of patients considered for and completing the study according to the following figure. A template will be provided for you to enter the appropriate data and modify based on your study.
Figure 1. Patient sampling and selection

Total patients receiving intervention during time period
(n = 205)

Not meeting inclusion criteria* (n = 45)
Reason 1 (n = 25)
Reason 2 (n = 20)
Etc

Eligible
(n = 160)

Not enrolled (n = 0)
Refused participation (n = 0)
Other reasons (specify) (n = 0)

Enrolled
(n = 160)

Excluded (n = 20)
Patients with insufficient data (n = 10)
Lost to follow-up (n = 5)
Death (n = 5)
Other reasons (specify) (n = 0)

Patients available for analysis
(n = 140)

*patients with incomplete data are not included here
Percent follow-up is based on information in the diagram and is calculated by dividing the number of patients available for analysis by the number of patients eligible for the study, or here 140/160 or 85.7%. In general, patients with incomplete data, those who have died, etc. are considered as lost to follow-up for purposes of calculating follow-up percent even if the study restricts enrollment to patients with a certain length of follow-up.

Be sure that reasons for exclusion are noted as well as any loss to follow-up after groups have been identified. Please be sure that the numbers “add-up” and that the % follow-up can be accurately determined. Please note that in a study which includes only patients with a certain length of follow-up, that those who have not been included are considered lost to follow-up.

**Results-prognostic studies (maximum word count 150)**

The EBJS format is intended to highlight the primary findings and provide an “at-a-glance” summary of pertinent data. This is accomplished via concise, streamlined text in combination with tables, standardized figures and/or diagrams. In general, the bulk of the results will be displayed in a figure, table or graph with very little text for the published portion. Text content should be limited for important explanation of results that are not immediately apparent from tables or graphs. Additional data and text may be provided for the web appendix. Please see example.

The results section should contain the following components:

- Patient characteristics
- Primary outcome results
- Secondary outcome results

**Patient characteristics**

A table summary (Table 1) of relevant demographic information, patient characteristics and factors which might logically influence outcomes must be provided. For example, factors might include the following:

**Table 1. Example—Patient characteristics and prognostic factors**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N = 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years (mean ± SD)</td>
<td>41.0 ± 11</td>
</tr>
<tr>
<td>Male, n (%)</td>
<td>18 (60)</td>
</tr>
<tr>
<td>Diabetes, n (%)</td>
<td>17 (57)</td>
</tr>
<tr>
<td>Current smoking, n (%)</td>
<td>10 (30)</td>
</tr>
<tr>
<td>Spondylosis, n (%)</td>
<td>8 (27)</td>
</tr>
<tr>
<td>Soft disc hernia &amp; spondylosis, n (%)</td>
<td></td>
</tr>
<tr>
<td>Radiculopathy, n (%)</td>
<td></td>
</tr>
<tr>
<td>Myelopathy, n (%)</td>
<td></td>
</tr>
<tr>
<td>Myeloradiculopathy, n (%)</td>
<td></td>
</tr>
<tr>
<td>Other clinical characteristic, n (%)</td>
<td></td>
</tr>
<tr>
<td>Levels treated, n (%)</td>
<td></td>
</tr>
</tbody>
</table>
For prognostic studies it is important to describe the primary factor you are exploring as well as other factors which may influence the outcome of interest. For instance, if the primary interest is exploring whether NSAID use delays or inhibits union, additional factors you may want to look at are age and smoking status as they may also be associated with these outcomes independent of NSAID use. These are potentially confounding factors, which may need to be controlled in analysis. A table describing the numbers of patients who had such factors may also be helpful.

**Primary outcome results—prognostic studies**

The results should focus on the primary study endpoint(s). Typical outcomes results might include one or more of the following:

<table>
<thead>
<tr>
<th>Outcomes by type</th>
<th>Example(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional results</td>
<td>Walking range, return to work</td>
</tr>
<tr>
<td>Validated Outcomes scores</td>
<td>SF -36, ODI, see AOSpine books for other scores</td>
</tr>
<tr>
<td>Pain</td>
<td>VAS, Analgesic use</td>
</tr>
<tr>
<td>Radiographic findings</td>
<td>Bone healing, implant integrity, alignment</td>
</tr>
<tr>
<td>Complications</td>
<td>Infection, nonunion, unplanned return to OR, neurologic changes, death</td>
</tr>
<tr>
<td>Disease remission/recurrence</td>
<td>Survival time, return to OR, supplemental interventions</td>
</tr>
</tbody>
</table>

Brief bulleted text, which interprets and compliments information summarized in the tables, figures or diagrams should be provided. Text should provide a synthesis of the finding and not repeat all the data in the table or figure (see example).

An example of a table reporting findings from a prognostic study may look something like this. Sex, indication and neurologic involvement are evaluated as prognostic factors for heterotopic ossification (HO).
Table 2. The risk (%) and unadjusted relative risk (RR) of HO by patient characteristic

<table>
<thead>
<tr>
<th></th>
<th>n/N (%)</th>
<th>RR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>4/12 (33.3)</td>
<td>1.0</td>
<td>0.8, 4.7</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12/18 (66.7)</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft disc hernia</td>
<td>8/17 (47.1)</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spondylisis</td>
<td>4/8 (50.0)</td>
<td>1.1</td>
<td>0.4, 2.5</td>
<td></td>
</tr>
<tr>
<td>Soft disc hernia &amp; spondylisis</td>
<td>3/5 (60.0)</td>
<td>1.3</td>
<td>0.5, 3.1</td>
<td></td>
</tr>
<tr>
<td>Neurological involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiculopathy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myelopathy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myeloradiculopathy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Secondary outcome results—prognostic studies

Brief bulleted text which interprets and compliments information summarized in the tables, figures or diagrams should be provided.

Discussion—prognostic studies (maximum word count 180)

This section should briefly put your study in the context of previous studies and describe the primary strengths and limitations of your study. We suggest using bullet points to allow for more concise presentation of the key insights gained from your study.

- The first bullet or two should provide a brief, concise synthesis of what is known from previously published studies and how findings from your study compare
- A bullet briefly describing the primary strengths of your study
- A bullet briefly describing study limitations and as possible how they may have affected the results
- A bullet briefly addressing possible surprising findings in your study and list possible reasons
- A bullet providing salient clinical perspective (implications and applications)
- A bullet suggesting future research needs (optional)

Summary and Conclusion—prognostic studies (maximum word count 50 words)

This section should include only a brief summary of primary “take-home messages,” the evidence-based bottom line.

Web-based appendices—prognostic studies

The web-based appendices provide additional context, data and references that allow the interested reader to gain a deeper appreciation of the study and its details. Authors are encouraged to keep
these brief while providing sufficient information that the study could be replicated.

Required components:
- PPO table: provide addition criteria for inclusion/exclusion (as shown above)
- Study protocol specifications for patient follow-up and technical/surgical procedures not fully described in manuscript
- Specific definitions of prognostic factors and how they were measured; some discussion on potentially confounding factors and how they were addressed
- Specific definitions of outcomes and how they were measured
- Sufficient detail on statistical methods and interpretation
- Additional data on secondary outcomes or sub-analyses not represented in table or figures in the main article but described in the results

Optional components:
- Additional background or discussion
- Additional information on devices, detailed technical or procedural aspects, descriptions of outcomes measures used, advanced statistical methods used
- Supplementary data or figures from subanalyses or additional outcomes
- Additional references
- Images, such as clinical pictures or radiographs
- Acknowledgements

Body of the Manuscript—treatment studies
Please note the maximum word count and formatting of text described in each section.

Study rationale and context—treatment studies (maximum word count 50)
This section should briefly describe the context and rationale for the study and lead logically into the statement of the study objective. It is not intended to provide a lengthy background or history regarding the topic.

Objective/aim or clinical question—treatment studies (maximum word count 40)
This should be a very brief statement that encompasses the PICO concept:

<table>
<thead>
<tr>
<th>Patients:</th>
<th>What age, condition, diagnostic characteristics, etc. define the study population?</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patients less than 50 years old presenting with acute neurological deficit resulting from disc herniation</td>
<td></td>
</tr>
<tr>
<td>Intervention:</td>
<td>What treatment is being investigated?</td>
<td>Treatment A</td>
</tr>
<tr>
<td>Comparator:</td>
<td>To what is the investigational treatment being compared?</td>
<td>Treatment B</td>
</tr>
</tbody>
</table>
Outcome: | What is the primary study end-point or patient outcome on which the two treatments are to be compared? Is there a specific validated measure used? | Oswestry Disability Index (ODI) |
---|---|---|

For example, here is how the objective might read:

- To compare Oswestry Disability Index (ODI) scores following treatment A with those following treatment B in patients less than 50 years old presenting with acute neurological deficit resulting from disc herniation.

This may take the form of a clinical question. For example:

- In elderly patients presenting with radiculopathy, is there a clinically significant difference in 12 month, post-surgical NDI scores between those treated with treatment A compared with treatment B?

You might visit the AOSpine’s EBSS.live to see additional examples of PPO for prognostic studies as applied to already published research.

**Methods—comparative studies of treatment (maximum word count 300–325)**

Please follow the format below for this section:

- Study design (e.g. prospective cohort study)
- Objective/aim (clinical question, key question or hypothesis)
- Inclusion criteria
- Exclusion criteria
- Patient population, intervention and comparator
- Outcomes and analysis

For a study comparing treatments, there should be sufficient information regarding study design, inclusion/exclusion criteria, randomization method (including concealment of allocation) or protocols for assignment of treatment, protocol for evaluation of patients, measurement instruments for primary outcome or endpoints, length of follow-up for primary outcome and methods for statistical evaluation that would allow for replication of the study by another investigator.

The methods for each study accepted for publication will be independently reviewed and an overall “class of evidence” will be assessed based on methodological quality (See section on “independent methods evaluation” below). Authors should ensure that there is sufficient information in the submission (article and/or web appendix) that allows for this assessment. EBSJ strongly encourages authors to follow guidelines for reporting described by CONSORT and others to ensure the highest quality reporting. Selected references can be found at the end of this document.

The methods section must include the following information on the numbers of patients considered for and completing the study according to the following figure based on the CONSORT guidelines for
reporting a therapeutic study. A template is available for you to enter the appropriate data and modify based on your study.

Patient sampling and selection flow chart

Be sure that reasons for exclusion are noted as well as any loss to follow-up after groups have been identified. Please be sure that the numbers “add-up” and that the % follow-up can be accurately determined. Please note that in a study that includes only patients with a certain length of follow-up, that those who have not been included are considered lost to follow-up.

Results—treatment studies (maximum word count 150)

The EBSJ format is intended to highlight the primary findings and provide an “at-a-glance” summary of pertinent data. This is accomplished via concise, streamlined text in combination with tables, standardized figures and/or diagrams. In general, the bulk of the results will be displayed in a figure, table or graph with very little text for the published portion. Text content should be limited for important explanation of results that are not immediately apparent from tables or graphs. Additional data and text may be provided for the web appendix. Please see example.
The results section should contain the following components:

- Patient characteristics
- Primary outcome results
- Secondary outcome results

**Patient characteristics—treatment studies**

A table summary (Table 1) of relevant demographic information, patient characteristics and factors that might logically influence outcomes must be provided. For example, factors might include the following:

<table>
<thead>
<tr>
<th>Patient characteristics</th>
<th>Group A (n =)</th>
<th>Group B (n =)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years) (± sd)</td>
<td>55.6 (± 8.4)</td>
<td>59.3 (± 6.4)</td>
</tr>
<tr>
<td>Male (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current smoking (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASIA score (admission)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of levels involved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>other baseline characteristic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For prognostic studies, instead of columns for each treatment, the characteristics of those who had the outcome of interest should be in the 1st column and those who didn’t have the outcome of interest would be in the 2nd column. Factors (exposures), including the primary factor being investigated should be listed in the rows.

**Primary outcome results—treatment studies**

Brief bulleted text, which interprets and compliments information summarized in the tables, figures or diagrams should be provided. Text should provide a synthesis of the finding and not repeat all the data in the table or figure (see example).

The results should focus on the primary study endpoint(s).

Typical outcomes results might include one or more of the following:

<table>
<thead>
<tr>
<th>Outcomes by type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional results</td>
<td>Walking range, return to work</td>
</tr>
<tr>
<td>Validated Outcomes scores</td>
<td>SF -36, ODI, see AOSSpine books for other scores</td>
</tr>
<tr>
<td>Pain</td>
<td>VAS, Analogic use</td>
</tr>
<tr>
<td>Radiographic findings</td>
<td>Bone healing, implant integrity, alignment</td>
</tr>
</tbody>
</table>
Complications
Infection, nonunion, unplanned return to OR, neurologic changes, death
Disease remission/recurrence
Survival time, return to OR, supplemental interventions

Secondary outcome results—treatment studies
Brief bulleted text which interprets and compliments information summarized in the tables, figures or diagrams should be provided.

Discussion—treatment studies (maximum word count 180)
This section should briefly put your study in the context of previous studies and describe the primary strengths and limitations of your study. We suggest using bullet points to allow for more concise presentation of the key insights gained from your study.

- The first bullet or two should provide a brief, concise synthesis of what is known from previously published studies and how findings from your study compare
- A bullet briefly describing the primary strengths of your study
- A bullet briefly describing study limitations and as possible how they may have affected the results
- A bullet addressing possible surprising findings in your study and list possible reasons
- A bullet providing salient clinical perspective (implications and applications)
- A bullet suggesting future research needs (optional)

Summary and Conclusion—treatment studies (maximum word count 50 words)
This section should include only a brief summary of primary “take home” messages, the evidence-based bottom line.

Web-based appendices—treatment studies
The web-based appendices provide additional context, data and references that allow the interested reader to gain a deeper appreciation of the study and its details. Authors are encouraged to keep these brief while providing sufficient information that the study could be replicated. The following are examples of additional information that might be available:

Required components:
- PICO table: provide addition criteria for inclusion/exclusion

<table>
<thead>
<tr>
<th>Included</th>
<th>Excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients:</td>
<td></td>
</tr>
<tr>
<td>Intervention:</td>
<td></td>
</tr>
<tr>
<td>Comparator</td>
<td></td>
</tr>
<tr>
<td>Outcome</td>
<td></td>
</tr>
</tbody>
</table>

- Study protocol specifications for patient follow-up and technical/surgical procedures
• Specific definitions of outcomes and how they were measured
• Sufficient detail on statistical methods and interpretation
• Additional data on secondary outcomes or sub-analyses not represented in table or figures in the main article but described in the results

Optional components:
• Additional background or discussion
• Additional information on devices, detailed technical or procedural aspects, descriptions of outcomes measures used, advanced statistical methods used
• Supplementary data or figures from subanalyses or additional outcomes
• Additional references
• Images, such as clinical pictures or x-rays

Body of the Manuscript—other studies
If your original research manuscript does not fit into one of the two categories above (prognostic studies or treatment studies), it may still be of high interest to EBSJ. Please inquire at globalspinejournal@aospine.org.

The review process
Again, EBSJ is unique in that all original research articles will be reviewed by Ph.D. methodological experts in clinical research as well as clinical blind peer reviewers. Authors are expected to respond to a review within one week.

Independent methods evaluation
The methodological aspects of the final original research article will be independently reviewed prior to publication and a class of evidence (CoE) rating given based on the criteria described below, which will be included in the published version. The criteria described below may assist authors in assuring that the manuscript describes the various methodological components.
Definition of the different classes of evidence (CoE) for articles on prognosis or risk:

<table>
<thead>
<tr>
<th>Class</th>
<th>Risk of bias</th>
<th>Study design</th>
<th>Criteria</th>
</tr>
</thead>
</table>
| I       | **Low risk:** Study adheres to commonly held tenets of high quality design, execution and avoidance of bias | Good quality cohort*                  | • Prospective design  
• Patients at similar point in the course of their disease or treatment  
• F/U rate of ≥ 80%  
• Patients followed long enough for outcomes to occur  
• Accounting for other prognostic factors* |
| II      | **Moderately low risk:** Study has potential for some bias; does not meet all criteria for class I but deficiencies not likely to invalidate results or introduce significant bias | Moderate quality cohort               | • Prospective design, with violation of one of the other criteria for good quality cohort study  
• Retrospective design, meeting all the rest of the criteria in class I |
| III     | **Moderately high risk:** Study has flaws in design and/or execution that increase potential for bias that may invalidate study results | Poor quality cohort  
Good quality case control or cross-sectional study | • Prospective design with violation of 2 or more criteria for good quality cohort, or  
• Retrospective design with violation of 1 or more criteria for good quality cohort:  
• A good case-control study†  
• A good cross-sectional study‡* |
| IV      | **High risk:** Study has significant potential for bias; does not include design features geared toward minimizing bias and/or does not have a comparison group | Poor quality  
case-control or cross-sectional  
Case series§ | • Other than a good case-control study  
• Other than a good cross-sectional study  
• Any case series‖ design |

* Cohort studies follow individuals with the exposure of interest over time and monitor for occurrence of the outcome of interest.
† Applies to cohort studies only.
‡ Authors must consider other factors that might influence patient outcomes and should control for them if appropriate.
§ A good case-control study must have all of the following: all incident cases from the defined population over a specified time period, controls that represent the population from which the cases come, exposure that precedes an outcome of interest, and accounting for other prognostic factors.
‖ A good cross-sectional study must have all of the following: a representative sample of the population of interest, an exposure that precedes an outcome of interest (e.g., sex, genetic factor), an accounting for other prognostic factors, and for surveys, at least an 80% return rate.
¶ A case-series design for prognosis is one where all the patients in the study have the exposure of interest. Since all the patients have the exposure, risks of an outcome can be calculated only for those with the exposure, but cannot be compared with those who do not have the exposure. For example, a case-series evaluating the effect of smoking on spine fusion that only recruits patients who smoke can simply provide the risk of patients who smoke that result in pseudarthrosis but cannot compare this risk to those that do not smoke.
Definition of the different classes of evidence (CoE) for articles on therapy:

<table>
<thead>
<tr>
<th>Class</th>
<th>Bias Risk</th>
<th>Studies of Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Low risk:</td>
<td>Good quality RCT</td>
</tr>
<tr>
<td></td>
<td>Study adheres to commonly held tenets of high quality design, execution and avoidance of bias</td>
<td>Study design</td>
</tr>
<tr>
<td>II</td>
<td>Moderately low risk:</td>
<td>Moderate or poor quality RCT</td>
</tr>
<tr>
<td></td>
<td>Study has potential for some bias; study does not meet all criteria for class I, but deficiencies not likely to invalidate results or introduce significant bias</td>
<td>Good quality cohort</td>
</tr>
<tr>
<td>III</td>
<td>Moderately High risk:</td>
<td>Moderate or poor quality cohort</td>
</tr>
<tr>
<td></td>
<td>Study has significant flaws in design and/or execution that increase potential for bias that may invalidate study results</td>
<td>Case-control</td>
</tr>
<tr>
<td>IV</td>
<td>High risk:</td>
<td>Case series</td>
</tr>
</tbody>
</table>

Selected references
Several guidelines have been published to assist writers to publish high-quality papers based on their clinical research studies. Information is available either through websites dedicated to these guidelines or through published articles.

For randomized controlled trials:

**CONSORT** (Consolidated Standards of Reporting Trials)

- [http://rctbank.ucsf.edu/consort/cplus.html](http://rctbank.ucsf.edu/consort/cplus.html)
- EQUATOR is associated with educational efforts and the CONSORT guidelines:

For observational studies including cohort studies:

**STROBE** (Strengthening the Reporting of Observational Studies in Epidemiology)
- [http://www.strobe-statement.org](http://www.strobe-statement.org)

A more general set of guidelines:

**SQUIRE** (Standards for Quality Improvement Reporting Excellence)
- [http://www.squire-statement.org/resources/](http://www.squire-statement.org/resources/)

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