ABOUT THE JOURNAL

Aims and Scope
Spinal Cord is a specialised, international journal that has been publishing spinal cord related manuscripts since 1963. It appears monthly, online and in print, and accepts contributions on spinal cord anatomy, physiology and management of injury and disease. Spinal Cord is multi-disciplinary and publishes contributions across the entire spectrum of research ranging from basic science to applied clinical research. It focuses on high quality original research, systematic reviews and narrative reviews.

Spinal Cord’s sister journal Spinal Cord Series and Cases publishes case reports, small case series and studies of regional interest. For more information, please see the aims and scope of Spinal Cord Series and Cases.

Clinical Trials
IMPORTANT MESSAGE: Mandatory requirement starting 1st January 2018
From 2018: All clinical trials starting on or after January 1st 2018 MUST be registered BEFORE the first participant is randomised to be accepted for publication in Spinal Cord. A clinical trial is any study in which participants are allocated to a treatment. See here for more details and see below section on Clinical Trials for more details.

Clinical trials must be prospectively registered if commenced after 1st Jan 2018, and reported according to CONSORT guidelines (see details in the Editorial Policies).

Journal Details
Editor-in-Chief: Professor Lisa Harvey, The University of Sydney, Australia, spinalcord@iscos.org.uk
Editorial Office: Sally Halsall, spinalcord@iscos.org.uk
Impact factor: 1.936 (2017 Journal Citation Reports, Thomson Reuters, 2018)
Frequency: 12 issues a year

Abstracted in:
- EBSCO Discovery Service
- Google Scholar
- Medline
- OCLC
- Scopus
- Summon by ProQuest
- BIOSIS
- Current Contents/Clinical Medicine
- Science Citation Index Expanded (SciSearch)
- EBSCO Academic Search
- EBSCO Advanced Placement Source
- EBSCO Biomedical Reference Collection
- EBSCO CINAHL
- EBSCO SPORTDiscus
- EBSCO STM Source
- EBSCO Rehabilitation & Sports Medicine Science
- EBSCO TOC Premier

Patient consent
If a patient or participant of a study can be identified in any way through information or clinical photographs presented in a paper, the patient or participant must provide written and signed consent. The consent needs to be emailed or posted to the editorial office. Alternatively, please indicate where a photograph can be cropped to remove identifiable features. If consent has not been obtained, then any recognizable features must be masked so that the individual is ‘officially unrecognizable’.
### ARTICLE TYPE SPECIFICATIONS

<table>
<thead>
<tr>
<th>ARTICLE DESCRIPTION</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article</td>
<td>Structured abstract max 250 words; Main body of text (excluding abstract, references, figures/tables) not to exceed 3,500 words*; Max of 4 tables and 3 figures</td>
</tr>
</tbody>
</table>
| Please see ‘Preparation of Articles’ below for further details. Spinal Cord prioritises original research that contains prospectively collected data driven by clear a priori hypothesis. This includes but is not limited to:  
  - randomised controlled trials (please see requirement for trial registration above)  
  - diagnostic studies  
  - cohort studies (if the sample is representative of the target population)  
  - case-control studies  
  - psychometric studies  
  - basic cellular studies  
  - animal studies  
  - qualitative studies  
  - explanatory or mechanistic studies  
  - economic evaluation studies  
| The following types of studies are a low publication priority:  
  - retrospective chart audits  
  - studies of the demographics of patients presenting with onset of SCI  
  - studies that are only of regional interest  
  - studies examining the reliability of outcome measures translated into a non-English language  
  - surveys  
| Exceptions will be made if the authors can demonstrate that the study is particularly novel and would be of wide interest to an international readership. |
| Review Article     | (Optional) Structured abstract max 250 words; Main body of text (excluding abstract, references, figures/tables) not to exceed 4,500 words*; Max of 2 tables and 3 figures |
| Spinal Cord prioritises systematic reviews about treatment effectiveness which have clearly stated PICO(s) with results presented in forest plots including meta-analyses as appropriate. Systematic reviews examining incidence or prevalence of SCI or of a secondary condition will also be prioritised. Narrative reviews will be considered but only if the topic is of wide interest to readers and has not already been extensively reviewed, or the authors can demonstrate that the review adds new insights to a previous review on the topic. Authors are encouraged to seek feedback about suitability for publication of narrative reviews from the Editorial Office before submitting.  
| Protocol            | Structured abstract, max 250 words; Main body of text (excluding abstract, references, figures/tables) not to exceed 3,500 words*; Max of 1 tables and 2 figures |
| Protocols of large cohorts or clinical trials may be published from time-to-time. However, the studies need to be of high importance with a strong likelihood of completion (evident by sufficient funding)  
| The headings for the Structured Abstract and within the article text should be the same as for Articles as outlined below with the following exception:  
  - the Results and Discussion sections should be replaced with one section titled ‘Ethics and Dissemination’  
| Additional subheadings within these sections are allowed  
| Correspondence      | No abstract or subheadings required; Main body of text (excluding references, figures/tables) not to exceed 800 words; No tables or figures unless essential |
| Correspondences (less than 800 words and 5 references) will be considered if they relate to a previously published manuscript in Spinal Cord or a current controversial issue. Correspondences that highlight an important weakness with the methodology or interpretation of the results of a published paper will be prioritised. |

* Unless these restrictions prevent authors from conveying key messages. If these restrictions are exceeded then authors need to provide an explanation in their covering letter and be aware that they may be asked to reduce the number of Figures, Tables and length of the manuscript. Authors can put extensive descriptions of particular methods or statistical techniques, and extra Figures or Tables in Supplementary Files.  

Please Note: all submissions should include a Title Page and a Conflict of Interest Statement. More information can be found below.

### PREPARATION OF ARTICLE

**House Style:** Authors should adhere to the following formatting guidelines:  
- We accept UK English or American English, however authors should be consistent in their use of either within the manuscript  
- Text should be double spaced with margins of between 1cm and 3cm wide.  
- All pages and lines to be numbered continuously (do not restart line numbering at the beginning of each page). To add page numbers in MS Word, go to Insert > Page Numbers. To add line numbers go to File, Page Setup, Layout tab. In the Apply to box select Whole document, click Line Numbers then select the Add line numbering check box, followed by Continuous.  
- Do not make rules thinner than 1pt (0.36mm).  
- Use a coarse hatching pattern rather than shading for tints in graphs.  
- Colour should be distinct when being used as an identifying tool.  
- Commas, not spaces should be used to separate thousands.  
- At first mention of a manufacturer, the town (and state if USA) and country should be provided.  
- Normally distributed data should be expressed as mean (SD). Skewed data should be expressed as median (25% to 75% percentiles).  
- Sole reliance on statistically significance (and p values) is discouraged. Instead, we encourage reporting of effect sizes preferably in the units of the original scale. For example, we encourage authors to write “people with tetraplegia are twice as likely to experience respiratory problems than people with paraplegia (OR 0.47, 95% CI 0.32 to 0.69)” or ‘people with spinal cord injury walked 0.45 m/s (95% CI 0.35 to 0.55) slower than...”  

Revised 26/09/2018
their age matched healthy counterparts". We discourage statements such as “people with spinal cord injury had a significant decrease in psychological distress after counselling (p = 0.02)“.

- Units: Use metric units (SI units) as fully as possible. Preferably give measurements of energy in kilojoules or Megajoules with kilocalories in parentheses (1 kcal = 4.186kJ). Use % throughout.
- Express all 95% confidence intervals in this format – “95% CI, xx to xx”.
- Express all means and standard deviations in this format – “the mean (SD) was xx (xx).”
- Abbreviations: On first using an abbreviation place it in parentheses after the full item. Note these abbreviations: gram g; litre l; milligram mg; kilogram kg; kilojoule kJ; megajoule MJ; weight wt; seconds s; minutes min; hours h. Do not add s for plural units.
- Use person centred terminology throughout e.g. “people with tetraplegia” (not “tetraplegics”).
- Use the term “tetraplegia” (not “quadruplegia”).
- Use the words “person/s”, “people” or “individual/s” where ever possible (rather than “patient/s”) unless this distracts from the readability or meaning.
- Use the word “participant/s”, not “subject/s”.
- Avoid spurious precision. As a general rule, report numbers between 0 and 1 to 2 decimal places, between 1 and 10 to 1 decimal place, and above 10 with no decimal place

Please note that Articles must contain the below components (if the authors wish Reviews can also be split under these headings). All sections of the article text where noted (*) must be included in a single article file and uploaded in Word format.

- **Cover letter**
- **Title page (excluding acknowledgements)*
- **Structured Abstract**
- **Introduction**
- **Methods**
- **Results**
- **Discussion**
- **Data Archiving**
- **Acknowledgements**
- **Statement of Ethics**
- **Conflicts of Interest**
- **Author Contributions**
- **Funding**
- **References**
- **Figure legends**
- **Tables**
- **Figures**

**Cover Letter**

Authors should provide a cover letter that includes the affiliation and contact information for the corresponding author. Authors should briefly discuss the importance of the work and explain why it is considered appropriate for the diverse readership of the journal. The cover letter should confirm the material is original research, has not been previously published and has not been submitted for publication elsewhere while under consideration. If the manuscript has been previously considered for publication in another journal, please include the previous reviewer comments, to help expedite the decision by the Editorial team. Please also include a Conflict of Interest statement, see Editorial Policies for more details.

**Title Page**

The title page should contain:

- **Title of the paper** - brief, informative, of 150 characters or less and should not make a statement or conclusion but where possible reflect the study design
  E.g. 1. Effectiveness of robotic gait training: a clinical trial
  E.g. 2. The need for ventilator support following recent spinal cord injury: a retrospective chart audit
- **Running title** – should convey the essential message of the paper in no more than 50 characters. Should not contain any abbreviations
  *Please note – the running head for a manuscript on all pages after the title page will be the shortened manuscript title followed by an ellipsis.
- **Full names of all the authors and their affiliations, as well as the e-mail address of the corresponding author. If authors regard it as essential to indicate that two or more co-authors are equal in status, they may be identified by an asterisk symbol with the caption ‘These authors contributed equally to this work’ immediately under the address list.

**Group Authorship/Collaborations** - Please note that if in the list of authors you wish to include additional authors/collaborators/groups/consortiums that aren’t part of the core list of authors as ‘on behalf of’, ‘for the’ or ‘representing the’ you need to ensure you list the authors correctly within the paper to ensure these are deposited correctly in PubMed.

- Groups where there is an ‘on behalf of’, or ‘representing the’, or ‘for the’ will appear in the HTML/PDF as follows: Author A, Author B, Author C and Author D on behalf of...
  - The list of individual members should then appear in the Acknowledgements section and not under Notes or Appendix
- A Group name who is an author in its own right should have the list of authors as usual and then all the individual authors of the group listed in their own section at the end of the article, NOT in Acknowledgement/Appendix or Notes

**Structured Abstract**

Articles must be prepared with a structured abstract designed to summarise the essential features of the paper in a logical and concise sequence under the following mandatory headings. Authors can also apply this layout to Review Articles if they wish to do so.

- **Study Design** (e.g. Retrospective chart audit; cohort study; clinical trial; Systematic Review: Narrative Review – see “Article Description” for other examples)
- **Objectives**
• Setting (e.g. hospital in Gothenburg, Sweden; University-based laboratory in Chicago, USA; community in Sydney, Australia; hospitals from multiple countries in Asia.)
• Methods
• Results
• Conclusions: Framed with respect to the objectives and primary results
• Sponsorship (where applicable)

Please note: As with all Springer Nature titles, Spinal Cord does not collect keywords. Keywords that are provided to us will not be published. If a term is important in the discoverability of the paper, it should be in the title or abstract of the paper.

Introduction
The Introduction should assume that the reader is knowledgeable in the field and should therefore be as brief as possible but can include a short historical review where desirable.

Methods
This section should contain sufficient detail, so that all experimental procedures can be reproduced, and include references. Methods, that have been published in detail elsewhere can be summarised with a reference to the full methodology. Authors should provide the name of the manufacturer and their location for any specifically named medical equipment or instrument. All drugs should be identified by their pharmaceutical names, and by their trade name if relevant.

Results
The Results section should briefly present the experimental data in text, Tables or Figures. Tables and Figures should not be described extensively in the text. All results comparing groups should be presented as point estimates with measures of precision (eg. mean between-group differences, odds ratios or hazard ratios with 95% confidence intervals).

Discussion
The Discussion section should focus on the interpretation and the significance of the findings with concise objective comments that describe the authors’ work in relation to the work of others in the area. It should not repeat information presented in the Results section. The final paragraph should highlight the main conclusion(s), and provide some indication of the direction of future research.

Data Archiving
All Articles should contain a Data availability statement, which includes information on where data supporting the results reported in the article can be found. More information on the journal's Research Data Policy can be found in the Editorial Policies section of this document which can be found further down or accessed here and for examples of data availability statements please see here.

Acknowledgements
These should be brief, and should include sources of support including sponsorship (e.g. university, charity, commercial organisation) and sources of material (e.g. novel drugs) not available commercially.

Statement of Ethics
Where a manuscript concerns animal experimentation or the use of human volunteers, the authors should include a statement at the end of the Methods section stating: “I/we certify that all applicable institutional and governmental regulations concerning the ethical use of human volunteers/animals were followed during the course of this research” (delete inappropriate words).

Conflicts of Interest
Authors must declare whether or not there are any competing financial interests in relation to the work described. This information must be included at this stage and will be published as part of the paper. Conflicts of interest should also be noted in the covering letter. Please see the Conflicts of Interest documentation in the Editorial Policies section for detailed information.

Authors’ Contributions
Authors must include a statement about the contribution of each author to the manuscript (see section on Authorship). The initials of each author may be used. This is an example for a systematic review:

MAJ was responsible for designing the review protocol, writing the protocol and report, conducting the search, screening potentially eligible studies, extracting and analysing data, interpreting results, updating reference lists and creating 'Summary of findings' tables.
SBM was responsible for designing the review protocol and screening potentially eligible studies. She contributed to writing the report, extracting and analysing data, interpreting results and creating 'Summary of findings' tables.
DH conducted the meta-regression analyses and contributed to the design of the review protocol, writing the report, arbitrating potentially eligible studies, extracting and analysing data and interpreting results.
NAL contributed to data extraction and provided feedback on the report.
FR and RAL provided feedback on the report.

Funding
The funding section is mandatory. Authors must declare sources of study funding including sponsorship (e.g. university, charity, commercial organization) and sources of material (e.g. novel drugs) not available commercially.

References
Only papers directly related to the article should be cited. Exhaustive lists should be avoided. References should follow the Vancouver format. In the text they should appear as numbers in square brackets placed before punctuations and starting at one. Example “…the scale maintains adequate construct validity and measures the attributes it purports to measure [15,16].”
The full details of the References should appear at the end of the paper (double-spaced) in numerical order corresponding to the order of citation in the text. Where a reference is to appear next to a number in the text, for example following an equation, chemical formula or biological acronym, citations should be written as (ref. X) and not as superscript. Example “detectable levels of endogenous Bcl-2 (ref. 3), as confirmed by western blot”.

All authors should be listed for papers with up to six authors; for papers with more than six authors, only the first six authors should be listed, followed by et al. Abbreviations for titles of medical periodicals should conform to those used in the latest edition of Index Medicus. The first and last page numbers for each reference should be provided. Abstracts and letters must be identified as such. Papers in press may be included in the list of references. Personal communications can be allocated a number and included in the list of references in the usual way or simply referred to in the text. In either case authors must obtain permission from the individual concerned to quote his/her unpublished work.

Examples:

**Journal article, up to six authors:**

**Journal article, e-pub ahead of print:**

**Journal article, in press:**

**Complete book:**

**Chapter in book:**

**Abstract:**

**Correspondence:**

**Figure Legends**
These should be brief, specific and appear on a separate manuscript page after the References section titled ‘Figure Legends’. All measures of variability should be defined either within the table, title or footnote.

**Tables**
Tables should only be used to present essential data; they should not duplicate what is written in the text. Reference to Table footnotes should be made alphabetically. Tables should consist of at least two columns; columns should always have headings. Ensure each Table is cited within the text and in the correct order, e.g. (Table 3). All measures of variability should be defined either within the table, title or footnote
It is imperative that tables are editable and ideally submitted in Excel format although Word format is acceptable. **If uploading in Excel, each table must be uploaded as a separate workbook with a title or caption and be clearly labelled, sequentially.** Files for Tables need to be saved with one of the following file extensions: .xls/.xlsx/.ods/.doc/.docx. Please ensure that you provide a ‘flat’ file, with single values in each cell with no macros or links to other workbooks or worksheets and no calculations or functions.

Tables should not include bold formatting unless there is a clear scientific significance of the bolding which is explained in the table legend. If not, all bold formatting will be removed at the copy editing stage to ensure the Table adheres to the journal style.

**Figures**
Figures and images should be labelled sequentially and cited in the text (e.g. Fig. 1). **Figures should not be embedded within the text but uploaded as separate files.** The use of three-dimensional histograms is strongly discouraged unless the addition of the third dimension is important for conveying the results. Composite figures containing more than three individual figures will count as two figures. All parts of a figure should be grouped together. Where possible large figures and tables should be included as supplementary material.
Detailed guidelines for submitting artwork can be found by downloading [Artwork Guidelines](#). Using the guidelines, please submit production quality artwork with your initial online submission. If you have followed the guidelines, we will not require the artwork to be resubmitted following the peer-review process, if your paper is accepted for publication.

**Colour Charges**
There is a charge if authors choose to publish their figures in colour in print publication (which includes the online PDF):

<table>
<thead>
<tr>
<th>Number of colour illustrations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>£573</td>
<td>£852</td>
<td>£1,132</td>
<td>£1,303</td>
<td>£1,473</td>
<td>£1,619</td>
<td>£146</td>
</tr>
<tr>
<td>Rest of world</td>
<td>£883</td>
<td>$1,313</td>
<td>$1,745</td>
<td>$2,007</td>
<td>$2,270</td>
<td>$2,496</td>
<td>$226 per additional colour figure</td>
</tr>
<tr>
<td>USA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(VAT or local taxes will be added where applicable)

Revised 26/09/2018
Colour charges will not apply to authors who wish to have their figures in colour online only (HTML version of the article but NOT the PDF. If you wish figures to appear in colour in the PDF, colour charges apply). Authors must supply figures in colour but advise the Editorial Office that they wish them to be in colour in the web version of their paper only.

Colour charges will NOT apply to authors who choose to pay an article processing charge to make their paper Open Access.

**Standard abbreviations**
Abbreviations should be defined in full at their first usage in the Abstract, and again at their first usage in the body of the manuscript, in the conventional manner. Terms used less than four times should not be abbreviated. It is not advised to use more than five abbreviations in total unless they are extremely common abbreviations.

**Reporting of demographic and neurological details**
Demographic data should be reported as mean and standard deviation, or median and interquartile range depending on whether the data are skewed or not. If data are to be grouped, then authors are encouraged to follow the recommendations of Biering-Sørensen et al.¹ e.g. age should be grouped in 15 year increments: 0–15, 16–30, 31–45...to 76+. The reporting of the paediatric SCI population was updated as age groups 0–5, 6–12, 13–14, 15–17 and 18–21. When time since injury is grouped, 5 year increments should be used: <1 year, 1–5 years, 6–10 years, and 5-year increments thereafter. Calendar time (years during which the study is conducted) should be grouped by either 5 or 10 year increments with years ending in 4 or 9. The severity of injury should be grouped as C1–4 AIS A Impairment Scale grade (AIS) A, B, or C; CS-8 AIS A, B, or C; T1-S5 AIS A, B, or C; AIS D at any injury level; Ventilator-dependent at any injury level or AIS grade. If data are limited, the above groups can be collapsed.

**Supplementary Information**
Supplementary Information is material directly relevant to the conclusion of an article that cannot be included in the printed version owing to space or format constraints. The article must be complete and self-explanatory without the Supplementary Information, which is posted on the journal’s website and linked to the article. Supplementary Information may consist of data files, graphics, movies or extensive tables. Please see the Artwork Guidelines for information on accepted file types.

Authors should submit Supplementary Information files in a FINAL format as they are not edited, typeset or changed, and will appear online exactly as submitted. When submitting Supplementary Information, authors are required to:
- Include a text summary (no more than 50 words) to describe the contents of each file.
- Identify the types of files (file formats) submitted.

Please note: We do not allow the resupplying of Supplementary Information files for style reasons after a paper has been exported in production, unless there is a serious error that affects the science and, if by not replacing, it would lead to a formal correction once the paper has been published. In these cases we would make an exception and replace the file; however there are very few instances where a Supplementary Information file would be corrected post publication.

**Subject Ontology**
During submission, choosing the most relevant and specific subject terms from our subject ontology will ensure that your article will be more discoverable and will appear on appropriate subject specific pages on nature.com, in addition to the journal’s own pages. Your article should be indexed with at least one, and up to four unique subject terms that describe the key subjects and concepts in your manuscript. Click here for help with this.

**Language Editing**
Spinal Cord is read by scientists from diverse backgrounds and many are not native English speakers. In addition, the readership of Spinal Cord is multidisciplinary; therefore authors need to ensure their findings are clearly communicated. Language and concepts that are well known in one subfield may not be well known in another. Thus, technical jargon should be avoided as far as possible and clearly explained where its use is unavoidable. Abbreviations, particularly those that are not standard, should also be kept to a minimum. The background, rationale and main conclusions of the study should be clearly explained and understandable by all working in the area of spinal cord injuries. Titles and abstracts in particular should be written in explanatory without the language and grammar in their body of the manuscript may not be well known in one. Further, the use of a language editing service where editors will improve the English to ensure that your meaning is clear and identify problems that require your attention. Two such services are provided by our affiliates Nature Research Editing Service and American Journal Experts.

Please note that the use of a language editing service is at the authors’ own expense and does not guarantee that the article will be selected for peer review or accepted.

---

HOW TO SUBMIT

Pre-submission Enquiries
The Editors encourage authors to submit manuscripts in full and aim to provide an efficient time to decision which, if the manuscript is deemed unacceptable for the journal, allows authors to submit elsewhere without delay. Pre-submission enquiries should be sent to the editorial office:
E-mail spinalcord@iscos.org.uk

Online Submission
We only accept manuscript submissions via our online manuscript submission system. Before submitting a manuscript, authors are encouraged to consult both our Editorial Policies and the Submission Instructions for our online manuscript submission system. Authors need to register for an account with our online manuscript system if they have not already done so. Authors will be able to monitor the status of their manuscripts online throughout the editorial process.

Initial Quality Check – Corresponding Author Responsibility
The Corresponding Author is responsible for responding to emails sent from the manuscript tracking system starting with the Initial Quality Check as follows:

1. One the author clicks ‘Approve Submission’ the manuscript is queued for an initial quality check
2. The Editorial Office will then carry out the checks and if any changes need to be made the Corresponding Author (only) receives an email* with instructions to make technical amendments (e.g. layout, references) and a link to access their manuscript
3. Having made the required changes to their manuscript the Author should then click the link to access their submission and upload the amended manuscript.
4. The manuscript is checked again by the Editorial Office but may be returned at least once more before it is ready to be sent to review.

*IMPORTANT: A common error occurs when the Corresponding Author doesn’t receive the email but instead logs onto the system to see the progress of their submission and sees the following:

Author Tasks
Author Instructions
Submit Manuscript

Awaiting Author Approval # SC-2017
If the author clicks on the link above they see the following prompt:
There are action items pending. Please click on the links next to the arrows.

Manuscript Workflow Tasks
Continue Halted Submission

Summary of the Editorial Process
• The author submits a manuscript and receives a tracking number
• The editorial office performs an initial quality check on the manuscript to ensure that the paper is formatted correctly
• An Editor-in-Chief is assigned to the manuscript and decides whether to send out to review. If the decision is not to send out the manuscript for review, the Editor-in-Chief contacts the author with the decision
• If the Editor-in-chief decides the paper is within the Journal’s remit, the Editor-in-Chief will select and assigns reviewers. This can take some time dependant on the responsiveness and availability of the reviewers selected
• Reviewers are given 14 days from acceptance to submit their reports. Once the required reports are submitted the Editor-in-Chief will make a final decision based on the comments received

Authors are able to monitor the status of their paper throughout the peer review process

Peer Review
To expedite the review process, only papers that seem most likely to meet editorial criteria are sent for external review. Papers judged by the editors to be of insufficient general interest or otherwise inappropriate are rejected promptly without external review.
Manuscripts sent out for peer review are evaluated by at least one independent reviewer (often two or more). Authors are welcome to suggest independent reviewers to evaluate their manuscript. By policy, referees are not identified to the authors, except at the request of the referee.
Reviewers selection is critical to the publication process, and we base our choice on many factors, based on expertise, reputation, and specific recommendations. A reviewer may decline the invitation to evaluate a manuscript where there is a perceived conflict of interest (financial or otherwise). Once a sufficient number of reviews are received, the editors then make a decision based on the reviewers’ evaluations:

• Accept – The manuscript is appropriate to be accepted as it stands
• Minor or Major revision – In cases where the editor determines that the authors should be able to address the referees’ concerns in six months or less the editor may request a revised manuscript that addresses these concerns. The revised version is normally sent back to the original referees for re-review. The decision letter will specify a deadline for receipt of the revised manuscript and link via which the author should upload to the online system

When submitting a revision authors are asked to upload (1) A rebuttal letter, indicating point-by-point how the comments raised by the reviewers have been addressed. If you disagree with any of the points raised, please provide adequate justification in your letter. (2) A marked-
up version of the manuscript that highlights changes made in response to the reviewers’ comments in order to aid the Editors and reviewers. (3) A ‘clean’ (non-highlighted) version of the manuscript.

- **Reject with the option to resubmit** – In cases where the referees’ concerns are very serious and appear unlikely to be addressed within six months, the editor will normally reject the manuscript. If the editor feels the work is of potential interest to the journal, however, they may express interest in seeing a future resubmission. The resubmitted manuscript may be sent back to the original referees or to new referees, at the editor’s discretion. If the author decides to resubmit, the updated version of the manuscript must be submitted online as a new manuscript and should be accompanied by a cover letter that includes a point-by-point response to referees’ comments and an explanation of how the manuscript has changed.

- **Reject outright** – Typically on grounds of specialist interest, lack of novelty, insufficient conceptual advance or major technical and/or interpretational problems.

**POST-ACCEPTANCE**

Once a manuscript is accepted, the corresponding author must complete and sign a Licence to Publish form on behalf of all authors and return it to the editorial office. Failure to promptly return the form will delay publication.

Springer Nature does not require authors of original research papers to assign copyright of their published contributions. Authors grant Springer Nature an exclusive licence to publish, in return for which they can re-use their papers in their future printed work. Springer Nature’s [author licence page](https://www.springernature.com/es-es/about/access-policies/gold-access/licence-to-publish) provides details of the policy.

**Standard Publication**

Manuscripts published under the standard method of publication will be behind a paywall for one year. Readers will be able to access manuscripts through their institutional or personal subscriptions or on a pay-per-view basis. Please click here for a copy of the standard [Licence to Publish](https://www.springernature.com/es-es/about/access-policies/gold-access/licence-to-publish) form. After one year, all papers will be freely accessible to all. Government employees from the [United States](https://www.springernature.com/es-es/about/access-policies/gold-access/united-states) and [Crown](https://www.springernature.com/es-es/about/access-policies/gold-access/crown) are required to sign and submit the relevant licence to publish form.

**Open Access Publication (Gold Open Access)**

Upon acceptance, authors can indicate whether they wish to pay an optional article processing charge (APC) for their article to be made Open Access online immediately upon publication. Open access articles are published under a CC BY Creative Commons licence, which allow authors to retain copyright to their work while making it open to readers. The cost for open access publication in *Spinal Cord* is £2,000/ €3,000/ €2,400 (VAT or local taxes will be added where applicable).

To facilitate self-archiving Springer Nature deposits Open Access articles in PubMed Central and Europe PubMed Central on publication. Authors are also permitted to post the final, published PDF of their article on a website, institutional repository or other free public server, immediately on publication. Visit our [open research site](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits) for further information about licences, APCs, and our free OA funding support service:

- [About Creative Commons licencing](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits)
- [Creative Commons licences option and article processing charges (APCs) for Spinal Cord](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits)
- [APC payment FAQs](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits)
- [Help in identifying funding for APCs](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits)
- [Editorial process for OA publication in hybrid journals](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits)
- [Self-archiving and deposition of papers published OA](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits)

If authors opt to publish via the Open Access route then the corresponding author must complete and sign the [Article Processing Charge (APC) payment form](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits) and an [Open Access Licence to Publish (LTP) form](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits) on behalf of all authors, and return these to the editorial office. These forms will be provided upon acceptance of a manuscript. Failure to promptly return forms will delay publication.

Government employees from the [United States](https://www.springernature.com/es-es/about/access-policies/gold-access/united-states) and [Crown](https://www.springernature.com/es-es/about/access-policies/gold-access/crown) are required to sign and submit the relevant government Open Access Licence To Publish form.

Credit terms are 30 days from receipt of invoice. Failure to pay an invoice within the stated credit term may result in the Open Access status of the paper being rescinded, with the paper being placed behind the paywall. Authors may also be subject to such penalties as restrictions on their ability to publish with Springer Nature in the future, involvement of a third party debt collection agency and legal proceedings.

**Compliance with Open Access mandates**

Springer Nature’s Open Access journals allow authors to comply with all funders’ Open Access policies worldwide. Authors may need to take specific actions to achieve compliance with funder and institutional Open Access mandates. Learn more about [Open Access compliance](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits).

**Waiver of institutional Open Access policies**

Please note that Harvard University FAS, MIT, Princeton, UCSF, University of Hawaii at Manoa, California Institute of Technology (Caltech) and the Georgia Institute of Technology have enacted Open Access policies that conflict with our own policy for articles published via the subscription route. If any corresponding or contributing authors are from these institutions, they will need to provide a waiver from the institution of every affected author, which can be obtained from the institution. This waiver should be submitted at the same time as the Licence to Publish form. This requirement does not apply to articles published via the Open Access route.

**Self-archiving and manuscript deposition (Green Open Access)**

Authors of original research articles are encouraged to submit the authors’ version of the accepted paper (the unedited manuscript) to a repository for public release six months after publication. Springer Nature also offers a free, opt-in Manuscript Deposition Service for original research articles in order to help authors fulfil funder and institutional mandates. Learn more about [self-archiving and manuscript deposition](https://www.springernature.com/es-es/about/access-policies/gold-access/advice-credits).
Responsible for the manuscript is the corresponding author. After acceptance for publication, the corresponding author will receive an e-mail containing a URL linking to the e-proofing site. Proof corrections must be returned within 48 hours of receipt. Failure to do so may result in delayed publication. Extensive corrections cannot be made at this stage. For more information and instructions on how to use the e-proofing tool, please see the Springer Nature e-Proofing site. E-Proofs is a unique solution that will enable authors to remotely edit and correct their article proofs. The corresponding author will receive an e-mail containing a URL linking to the e-proofing site. Proof corrections must be returned within 48 hours of receipt. Failure to do so may result in delayed publication. Extensive corrections cannot be made at this stage. For more information and instructions on how to use the e-proofing tool, please see here.

Advance Online Publication
The final version of the manuscript is published online in advance of print (AOP). AOP represents the official version of the manuscript and will subsequently appear unchanged, in print.

Offprints
Offprints may be ordered on the form accompanying the proofs. Charges are necessarily higher if orders for offprints are received after the issue has gone to press.

Content Sharing
In order to aid the dissemination of research swiftly and legally to the broader community, we are providing all authors with the ability to generate a unique shareable link that will allow anyone to read the published article. If you have selected an Open Access option for your paper, or where an individual can view content via a personal or institutional subscription, recipients of the link will also be able to download and print the PDF.

As soon as your article is published, you can generate your shareable link by entering the DOI of your article here: http://authors.springernature.com/share

We encourage you to forward this link to your co-authors, as sharing your paper is a great way to improve the visibility of your work. There are no restrictions on the number of people you may share this link with, how many times they can view the linked article, or where you can post the link online. More information on Springer Nature’s commitment to content sharing is available here.

EDITORIAL POLICIES

Researchers should conduct their research – from research proposal to publication – in line with best practices and codes of conduct of relevant professional bodies and/or national and international regulatory bodies.

Spinal Cord and Springer Nature are committed to upholding the integrity of the scientific record. As a member of the Committee on Publication Ethics (COPE), Spinal Cord abides by COPE’s principles on how to deal with potential acts of misconduct, which includes formal investigation of all perceived transgressions.

Authorship
Requirements for all categories of articles should conform to the “Uniform Requirements for Manuscripts Submitted to Biomedical Journals,” developed by the International Committee of Medical Journal Editors (ICMJE; www.icmje.org).

Each author must have contributed sufficiently to the intellectual content of the submission. The corresponding author should list all authors and their contributions to the work. Any changes to the author list after submission, such as a change in the order of the authors, or the deletion or addition of authors, must be approved by a signed letter from every author. The corresponding author must confirm that he or she has had full access to the data in the study and final responsibility for the decision to submit for publication.

To qualify as a contributing author, one must meet all of the following criteria:
1. Conceived and/or designed the work that led to the submission, acquired data, and/or played an important role in interpreting the results.
2. Drafted or revised the manuscript.
3. Approved the final version.
4. Agreed 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.

Contributions by individuals who made direct contributions to the work but do not meet all of the above criteria should be noted in the Acknowledgments section of the manuscript. Medical writers and industry employees can be contributors. Their roles, affiliations, and potential conflicts of interest should be included in the author list or noted in the Acknowledgments and/or Contributors section concurrent with their contribution to the work submitted. Signed statements from any medical writers or editors declaring that they have given permission to be named as an author, as a contributor, or in the Acknowledgments section is also required. Failure to acknowledge these contributors can be considered inappropriate, which conflicts with the journal’s editorial policy.

Changes to Authorship
It is the corresponding author’s responsibility to ensure that the author list is correct at the point of first submission. Requests to change the authorship (such as to include or exclude an author, change an author’s name or contribution) must be accompanied by a letter signed by all authors to show they concur with the change. New authors must also confirm that they fully comply with the journal’s authorship requirements. Requests for addition or removal of authors as a result of authorship disputes (after acceptance) are honoured after formal notification by the institute or independent body and/or when there is agreement between all authors. Changes to the authorship will not be allowed once the manuscript has been accepted for publication.

Correspondence with the Journal
One author is designated the contact author for matters arising from the manuscript (e.g. material requests and technical comments). It is this author’s responsibility to inform all co-authors of matters arising and to ensure such matters are dealt with promptly. Before submission, the corresponding author must ensure that all authors are included on the author list, the author order has been agreed upon by all authors, and all authors are aware that the manuscript is being submitted. After acceptance for publication, the corresponding author will receive an email containing a link to the e-proofing site and is responsible for checking the proofs, answering any queries and coordinating any corrections with the co-authors.

Revised 26/09/2018
Anonymity and Confidentiality
Editors, authors and reviewers are required to keep confidential all details of the editorial and peer review process on submitted manuscripts. Unless otherwise declared as a part of open peer review, the peer review process is confidential and conducted anonymously. All details about submitted manuscripts are kept confidential and no comments are issued to outside parties or organizations about manuscripts under consideration or if they are rejected. Editors are restricted to making public comments on a published article’s content and their evaluation.

Upon accepting an invitation to evaluate a manuscript, reviewers must keep the manuscript and associated data confidential, and not redistribute them without the journal’s permission. If a reviewer asks a colleague to assist in assessing a manuscript, confidentiality must be ensured and their names must be provided to the journal with the final report.

We ask reviewers not to identify themselves to authors without the editor’s knowledge. If they wish to reveal their identities while the manuscript is under consideration, this should be done via the editor; if this is not practicable, we ask authors to inform the editor as soon as possible after the reviewer has revealed their identity. Our own policy is to neither confirm nor deny any speculation about reviewers’ identities, and we encourage reviewers to adopt a similar policy.

We deplore any attempt by authors to confront reviewers or try to determine their identities. Reviewers should be aware that it is our policy to keep their names confidential and that we do our utmost to ensure this confidentiality. We cannot, however, guarantee to maintain this confidentiality in the face of a successful legal action to disclose identity.

Regardless of whether a submitted manuscript is eventually published, correspondence with the journal, referees’ reports, and other confidential material must not be published, disclosed, or otherwise publicized without prior written consent.

Conflicts of Interest
In the interests of transparency and to help readers form their own judgments of potential bias, authors must declare whether or not there are any competing financial interests in relation to the work described. The corresponding author is responsible for submitting a conflict of interest statement on behalf of all authors of the paper. This statement must be included in the cover letter and within the article before the References section listed under ‘Conflict of Interest’.

In cases where the authors declare a competing financial interest, a statement to that effect is published as part of the article. If no such conflict exists, the statement will simply read that the authors have nothing to disclose.

For the purposes of this statement, competing interests are defined as those of a financial nature that, through the potential influence on behaviour or content, or from perception of such potential influences, could undermine the objectivity, integrity or perceived value of a publication. They can include any of the following:

- **Funding**: Research support (including salaries, equipment, supplies, reimbursement for attending symposia, and other expenses) by organizations that may gain or lose financially through this publication. The role of the funding body in the design of the study, collection and analysis of data and decision to publish should be stated.
- **Employment**: Recent (while engaged in the research project), present or anticipated employment by any organization that may gain or lose financially through this publication. This includes positions on an advisory board, board of directors, or other type of management relationship.
- **Personal financial interests**: Stocks or shares in companies that may gain or lose financially through publication; consultation fees or other forms of remuneration from organisations that may gain or lose financially; patents or patent applications whose value may be affected by publication.
- **Patents**: Holding, or currently applying for, patents, relating to the content of a manuscript; receiving reimbursement, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript.

It is difficult to specify a threshold at which a financial interest becomes significant, but note that many US universities require faculty members to disclose interests exceeding $10,000 or 5% equity in a company. Any such figure is arbitrary, so we offer as one possible practical alternative guideline: "Declare all interests that could embarrass you were they to become publicly known after your work was published." We do not consider diversified mutual funds or investment trusts to constitute a competing financial interest.

The statement included in the submission must be an explicit and unambiguous description of any potential conflicts of interest, or lack thereof, for any of the authors as it relates to the subject of the manuscript. Examples include

- **Conflict of interest.**
  The authors declare no conflict of interest.
- **Conflict of interest.**
  Dr Caron’s work has been funded by the NIH. He has received compensation as a member of the scientific advisory board of Acadia Pharmaceutical and owns stock in the company. He also has consulted for Lundbeck and received compensation. Dr Rothman and Dr Jensen declare no potential conflict of interest.

Neither the precise amount received from each entity nor the aggregate income from these sources needs to be provided.

Non-financial interests that authors may like to disclose include:

- a close relationship with, or a strong antipathy to, a person whose interests may be affected by publication of the article,
- an academic link or rivalry with someone whose interests may be affected by publication of the article,
- membership in a political party or special interest group whose interests may be affected by publication of the article, or
- a deep personal or religious conviction that may have affected what the author wrote and that readers should be aware of when reading the article.
Reviewsers approached for assessment of submitted articles are also requested to declare conflicts of interest that may impede on their judgment of that article. This specifically includes competing research in the same area that could be negatively affected by publication of the submitted article.

**Clinical Trials**

All clinical trials commencing after 1st January 2018 must be prospectively registered in a public registry prior to the commencement of the trial; whilst clinical trials prior to 2018 must be registered in a public registry prior to submission and in both cases the trial registry number must be included in the manuscript and provided upon submission. The journal follows the trials registration policy of the ICMJE (www.icmje.org) and considers only trials that have been appropriately registered before submission, regardless of when the trial closed to enrolment. Acceptable registries must meet the following ICMJE requirements:

- be publicly available, searchable, and open to all prospective registrants
- have a validation mechanism for registration data
- be managed by a not-for-profit organization

Examples of registries that meet these criteria include:

1) ClinicalTrials.gov the registry sponsored by the United States National Library of Medicine
2) the International Standard Randomized Controlled Trial Number Registry
3) the Cochrane Renal Group Registry
4) the European Clinical Trials Database

Randomised Controlled Trials (RCTs) must adhere to the CONSORT statement, (CONsolidated Standards Of Reporting Trials) and submissions must be accompanied by a completed CONSORT checklist (uploaded as a related manuscript file). Further information can be found at www.consort-statement.org.

**Reporting guidelines**

Studies must adhere to the reporting guidelines as outlined by the Equator Network (http://www.equator-network.org/). Where appropriate the accompanying checklists need to be submitted with the manuscript to indicate where in the manuscript each item is reported. These include:

- the CONSORT guidelines for randomised trials.
- the STROBE guidelines for observational studies.
- the PRISMA guidelines for systematic reviews.
- the STARD guidelines for diagnostic/prognostic studies.
- the ARRIVE guidelines for pre-clinical animal studies.

Springer Nature endorses the toolkits and guidelines produced by the Committee on Publication Ethics (COPE): http://publicationethics.org

**Informed Consent**

Publication of identifiable images from human research participants (or a parent or legal guardian for participants under the age of 16 years) must be accompanied by a statement attesting that the authors have obtained consent to publication of the images. If the participant is deceased, consent must be sought from the next of kin of the participant. In all such instances, all reasonable measures must be taken to protect patient anonymity. Black bars over the eyes are not acceptable means of anonymisation. In certain cases, the journal may insist upon obtaining evidence of informed consent from authors. Images without appropriate consent must be removed from publication.

**Human and Other Animal Experiments**

Research involving human subjects, human material, or human data must have been performed in accordance with the Declaration of Helsinki and must have been approved by an appropriate ethics committee. A statement detailing this, including the name of the ethics committee and the reference number where appropriate, must appear in all manuscripts reporting such research.

For primary research manuscripts reporting experiments on live vertebrates and/or higher invertebrates, the corresponding author must confirm that all experiments were performed in accordance with relevant guidelines and regulations. The manuscript must include in the Supplementary Information (methods) section (or, if brief, within of the print/online article at an appropriate place), a statement identifying the institutional and/or licensing committee approving the experiments, including any relevant details regarding animal welfare, patient anonymity, drug side effects and informed consent. Sex and other characteristics of animals that may influence results must be described. Details of housing and husbandry must be included where they are likely to influence experimental results.

**Biosecurity Policy**

The Editor-in-Chief may seek advice about submitted papers not only from technical reviewers but also on any aspect of a paper that raises concerns. These may include, for example, ethical issues or issues of data or materials access. Occasionally, concerns may also relate to the implications to society of publishing a paper, including threats to security. In such circumstances, advice will usually be sought simultaneously with the technical peer-review process. As in all publishing decisions, the ultimate decision whether to publish is the responsibility of the Editor-in-Chief of Spinal Cord.

**Reproducibility**

*Spinal Cord* requires authors of papers that are sent for external review to include in their manuscripts relevant details about several elements of experimental and analytical design. This initiative aims to improve the transparency of reporting and the reproducibility of published results, focusing on elements of methodological innovation that are frequently poorly reported. Authors being asked to resubmit a manuscript will be asked to confirm that these elements are included by filling out a checklist that will be made available to the editor and reviewers.

**Research Data Policy**

We strongly encourage authors to make available to readers all datasets on which the conclusions of a paper rely. We encourage authors to ensure that their datasets are either deposited in publicly available repositories (where available and appropriate) or presented in the main manuscript or additional supporting files whenever possible. Where one does not exist, the information must be made available to referees at submission and to readers promptly upon request. Any restrictions on material availability or other relevant information must be disclosed in the manuscript’s Methods section and should

Revised 26/09/2018

11
include details of how materials and information may be obtained. Please see the journals guidelines on Research Data policy here.

Data in common with other publications
Any data that are in common with another publication must be clearly stated both in the covering letter and in the manuscript. The prior publication of an abstract in conference proceedings will not preclude publication but needs to be stated in the covering letter.

Sequences, Structures and “Omics”
Papers reporting protein or DNA sequences and molecular structures will not be accepted without an accession number to Genbank/EMBL/DDBJ/SSWISS-PROT, ProteinDataBank, or other publicly available database in general use in the field that gives free access to researchers from the date of publication.

Authors of papers describing structures of biological macromolecules must provide experimental data upon the request of Editor-in-Chief if they are not already freely accessible in a publicly available database such as ProteinDataBank, Biological Magnetic Resonance Databank, or Nucleic Acid Database.

Misconduct
Springer Nature takes seriously all allegations of potential misconduct. As a member of the Committee on Publication Ethics (COPE), Spinal Cord will follow the COPE guidelines outlining how to deal with cases of suspected misconduct. As part of the investigation, the journal may opt to do one or more of the following:

- suspend review or publication of a paper until the issue has been investigated and resolved;
- request additional information from the author, including original data or images or ethics committee or IRB approval;
- make inquiries of other titles believed to be affected;
- forward concerns to the authors' employers or person responsible for research governance at the authors' institutions;
- refer the matter to other authorities or regulatory bodies (for example, the Office of Research Integrity in the US or the General Medical Council in the UK); or
- submit the case to COPE in an anonymised form for additional guidance on resolution.

Please note that, in keeping with the journal’s policy of the confidentiality of peer review, if sharing of information with third parties is necessary, disclosure will be made to only those Editors who the Editor believes may have information that is pertinent to the case, and the amount of information will be limited to the minimum required.

Duplicate Publication
Papers must be original and not published or submitted for publication elsewhere. This rule also applies to non-English language publications. Springer Nature allows and encourages prior publication on recognized community preprint servers for review by other scientists before formal submission to a journal. The details of the preprint server concerned and any accession numbers should be included in the cover letter accompanying manuscript submission. This policy does not extend to preprints available to the media or that are otherwise publicized outside the scientific community before or during the submission and consideration process.

Springer Nature also allows publication of meeting abstracts before the full contribution is submitted. Such abstracts should be included with the journal submission and referred to in the cover letter accompanying the manuscript. Again this policy doesn’t extend to meeting abstracts and reports available to the media or which are otherwise publicised outside of the scientific community during the submission and consideration process.

Plagiarism
Plagiarism is when an author attempts to pass off someone else's work as his or her own. Duplicate publication, sometimes called self-plagiarism, occurs when an author reuses substantial parts of his or her own published work without providing the appropriate references. This can range from getting an identical paper published in multiple journals, to 'salami-publishing', where authors add small amounts of new data to a previous paper.

Plagiarism can be said to have clearly occurred when large chunks of text have been cut-and-pasted. Minor plagiarism without dishonest intent is relatively frequent, for example, when an author reuses parts of an introduction from an earlier paper. Journal editors judge any case of which they become aware (either by their own knowledge of and reading about the literature, or when alerted by referees) on its own merits.

Springer Nature is a member of Similarity Check (formerly CrossCheck), a multi-publisher initiative used to screen published and submitted content for originality. Spinal Cord Series and Cases uses Similarity Check to detect instances of overlapping and similar text in submitted manuscripts. To find out more about CrossCheck visit https://www.crossref.org/services/similarity-check/

If a case of plagiarism comes to light after a paper is published, the journal will conduct a preliminary investigation, utilising the guidelines of the Committee on Publication Ethics. If plagiarism is proven, the Journal will contact the author's institute and funding agencies as appropriate. The paper containing the plagiarism may also be formally retracted or subject to correction.

Data Fabrication & Falsification
Falsification is the practice of altering research data with the intention of giving a false impression. This includes, but is not limited to, manipulating images, removing outliers or “inconvenient” results, or changing, adding or omitting data points. Fabrication is the practice of inventing data or results and recording and/or reporting them in the research record. Data falsification and fabrication call into question the integrity and credibility of data and the data record, and as such, they are among the most serious issues in scientific ethics.

Some manipulation of images is allowed to improve them for readability. Proper technical manipulation includes adjusting the contrast and/or brightness or colour balance if it is applied to the complete digital image (not parts of the image). The author should notify the Editor in the cover letter of any technical manipulation. Improper technical manipulation refers to obscuring, enhancing, deleting and/or introducing new elements into an image. See Image Integrity & Standards below for more details.

Permissions
If a table or figure has been published before, the authors must obtain written permission to reproduce the material in both print and electronic formats from the copyright owner and submit it with the manuscript. This follows for illustrations and other materials taken from previously published works not in
the public domain. The original source should be cited in the figure caption or table footnote. Permission to reproduce material can usually be obtained through the Copyright Clearance Center.

**Image Integrity and Standard**

Images submitted with a manuscript for review should be minimally processed (for instance, to add arrows to a micrograph). Authors should retain their unprocessed data and metadata files, as editors may request them to aid in manuscript evaluation. If unprocessed data is unavailable, manuscript evaluation may be stalled until the issue is resolved.

A certain degree of image processing is acceptable for publication but the final image must correctly represent the original data and conform to community standards. The guidelines below will aid in accurate data presentation at the image processing level:

- Authors should list all image acquisition tools and image processing software packages used. Authors should document key image-gathering settings and processing manipulations in the Methods section.
- Images gathered at different times or from different locations should not be combined into a single image, unless it is stated that the resultant image is a product of time-averaged data or a time-lapse sequence. If juxtaposing images are essential, the borders should be clearly demarcated in the figure and described in the legend.
- Touch-up tools, such as cloning and healing tools in Photoshop, or any feature that deliberately obscures manipulations, is to be avoided.
- Processing (such as changing brightness and contrast) is appropriate only when it is applied equally across the entire image and is applied equally to controls. Contrast should not be adjusted so that data disappear. Excessive manipulations, such as processing to emphasize one region in the image at the expense of others (for example, through the use of a biased choice of threshold settings), is inappropriate, as is emphasizing experimental data relative to the control.

For gels and blots, positive and negative controls, as well as molecular size markers, should be included on each gel and blot – either in the main figure or an expanded data supplementary figure. The display of cropped gels and blots in the main paper is encouraged if it improves the clarity and conciseness of the presentation. In such cases, the cropping must be mentioned in the figure legend.

- Vertically sliced gels that juxtapose lanes that were not contiguous in the experiment must have a clear separation or a black line delineating the boundary between the gels.
- Cropped gels in the paper must retain important bands.
- Cropped blots in the body of the paper should retain at least six band widths above and below the band.
- High-contrast gels and blots are discouraged, as overexposure may mask additional bands. Authors should strive for exposures with grey backgrounds. Immunoblots should be surrounded by a black line to indicate the borders of the blot if the background is faint.
- For quantitative comparisons, appropriate reagents, controls and imaging methods with linear signal ranges should be used.

**Microscopy** adjustments should be applied to the entire image. Threshold manipulation, expansion or contraction of signal ranges and the altering of high signals should be avoided. If ‘pseudo-colouring’ and nonlinear adjustment (for example ‘gamma changes’) are used, this must be disclosed. Adjustments of individual colour channels are sometimes necessary on ‘merged’ images, but this should be noted in the figure legend. We encourage inclusion of the following with the final revised version of the manuscript for publication:

- In the Methods section, specify the type of equipment (microscopes/objective lenses, cameras, detectors, filter model and batch number) and acquisition software used. Although we appreciate that there is some variation between instruments, equipment settings for critical measurements should also be listed.
- The display lookup table (LUT) and the quantitative map between the LUT and the bitmap should be provided, especially when rainbow pseudo-colour is used. It should be stated if the LUT is linear and covers the full range of the data.
- Processing software should be named and manipulations indicated (such as type of deconvolution, three-dimensional reconstructions, surface and volume rendering, ‘gamma changes’, filtering, thresholding and projection).

Authors should state the measured resolution at which an image was acquired and any downstream processing or averaging that enhances the resolution of the image.

**Communication with the Media**

Material submitted must not be discussed with the media. We reserve the right to halt the consideration or publication of a paper if this condition is broken. If a paper is particularly newsworthy, the press release will be sent to our list of journalists in advance of publication with an embargo that forbids any coverage of the manuscript, or the findings of the manuscript, until the time and date clearly stated. Authors whose papers are scheduled for publication may also arrange their own publicity (for instance through their institution’s press offices), but they must strictly adhere to our press embargo and are advised to coordinate their own publicity with our press office.

**Communication Between Scientists**

We encourage communication between scientists. Authors can communicate with other researchers as much as they wish, whether on a recognized community preprint server, by discussion at scientific meetings or by online collaborative sites such as wikis, but authors must not discuss manuscripts with the press prior to publication (beyond a formal presentation, if at a conference).

**Pre- and Post-Submissions**

Authors are welcome to post pre-submission versions or the original submitted version of the manuscript on a personal blog, a collaborative wiki or a recognized preprint server (such as ArXiv or bioRXiv). Preprint posting is not considered prior publication and will not jeopardize consideration at Spinal Cord. Authors posting preprints are asked to respect our policy on communications with the media.

Our policy on posting and citation of preprints of primary research manuscripts is summarized below:

- The original submitted version of the manuscript (the version that has not undergone peer review) may be posted at any time. Authors should disclose details of preprint posting, including DOI, upon submission of the manuscript to Spinal Cord.
- Preprints may be cited in the reference list as below:

Revised 26/09/2018
For inquiries related to submission requirements, please contact the editorial office. For inquiries related to advertising, subscriptions, permissions, papers in production or publishing a supplement, please contact the publisher’s office.