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## ABOUT THE JOURNAL

### Aims and Scope

*Bone Research* is an Open Access, fully peer-reviewed journal publishing the foremost progress and novel understanding of all aspects of bone science. The journal highlights the breakthrough discoveries in basic and clinical aspects of bone biology, pathophysiology and regeneration, as well as other significant findings related to bone.

Covering all aspects of bone science including its subspecialties, *Bone Research* publishes original, high-quality, peer-reviewed papers including research articles, reviews, correspondence and comments.

Original research articles will be published under, but not limited to, the following headings:

- Morphogenesis of bone and cartilage;
- Musculoskeletal diseases;
- Metabolic bone diseases;
- Bone regeneration and bone tissue engineering;
- Bone related biomaterials;
- Clinical studies.

### Journal Details

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## ARTICLE TYPES

Article Description	Abstract	Word Limit	Tables/ Figures	References guideline
<b>Article</b> A complete, comprehensive report of original research. An Article usually has a fairly complex narrative that is based on multiple techniques and/or approaches.	Unstructured abstract; max word limit: <b>250</b>	<b>4,000-6,000</b> words excluding abstract, references, figures and tables	Max figures 7  Max tables 3	No limits
<b>Correspondence</b> The Editors will occasionally consider the publication of correspondence developing the debate relating to a particular journal article that has already been published in the journal. These would usually be published alongside a reply from the authors of the original article.	None	<b>800</b> words excluding, references, figures and tables	None	No limits
<b>Comment</b> Comments are an analysis of recently published papers of particular interest. This is a commission-only section.	None	<b>1,500</b> words excluding references	No Limits	No limits

<p><b>Editorial</b> The editors invite editorials to discuss a topical issue or a paper published in the journal and set the problems addressed by the paper in the wider context of the field. These are usually commissioned, but unsolicited editorial submissions are considered for publication.</p>	None	2,000 words excluding references	No Limits	No limits
<p><b>Review Article</b> A comprehensive synthesis and/or analysis of specific topics. A short Introduction giving the rationale for the review should be followed by sections with appropriate subheadings, followed by a conclusions section at the end. The standard footer headings (Acknowledgements, Contributions, Competing Interests, Funding) are required. All invited reviews will undergo peer review prior to acceptance.</p>	Unstructured abstract; max word limit: 250	At least 8,000 words excluding abstract, references, figures and tables	Figures 3-5 Tables 3-5	At least 100

### Word limit

Word limits are provided for guidance only. The Editors will consider submissions that exceed the recommended limit, subject to feedback received during peer review.

## PREPARATION OF ARTICLES

### Article Requirements

#### Cover letter

Each manuscript must be accompanied by a cover letter including statements that:

- Highlight of the current manuscript should be limited to no more than 2 short sentences;
- All authors agree with the submission;
- The work has not been published or submitted for publication elsewhere, either completely or in part, or in another form or language;
- If material has been reproduced from another source, the authors have authorization from the copyright holder (usually the Publisher) to use it, and have included this authorization with their submission;
- Conflict of Interest Statement

#### Organization of manuscript

For first submissions (i.e. not revised manuscripts), authors may choose to incorporate the manuscript text and figures into a single file (Microsoft Word or TeX/LaTeX) up to 30 MB in size – the figures may be inserted within the text at the appropriate positions. **Article should include continuous line number.** Supplementary Information should be combined and supplied as a separate file, preferably in Word format.

Alternatively authors can follow the guidelines outlined below, which must be followed when submitting files for revisions.

All textual content should be provided in a single file, prepared using either Microsoft Word or TeX/LaTeX; figures should be provided in individual files. The

manuscript text file should include the following parts, in order: a title page with author affiliations and contact information (the corresponding author should be identified with an asterisk); the sections required for each content type (see information for different content types) then References, Acknowledgements (optional), Author Contributions (Articles only), Competing Financial Interests statement, Figure Legends and Tables. Footnotes to the text are not allowed and any such material should be incorporated into the text as parenthetical matter.

Please note that Articles must contain the following components in the order stated. Other Article Types needn't following the order. Please see below for further details.

- Title page
- Abstract
- Introduction
- Results
- Discussion
- Materials and methods
- Acknowledgements
- Conflict of interests
- Contributions
- References
- Figure legends
- Tables
- Figures

#### (i) Title page

The title page should include a succinct title (less than 200 characters); a concise running title (which should normally not exceed 50 characters); the full names of all authors including their given names; the affiliations (including city, state, country and zip code) of all authors; the official email addresses of all authors, and the full contact details of the

corresponding author (including telephone and fax numbers). The maximum corresponding authors for *Bone Research* are 3, and the maximum co-first authors for one submission are 3. Please also list the contributions for each author in the title page.

(ii) *Abstract*

A brief abstract (maximum 250 words) should state the purpose, basic procedures, main findings and principal conclusions of the study. The abstract should not contain abbreviations or references and should not be structured.

(iii) *Introduction*

The Introduction should summarize the rationale for the study and outline pertinent background material. The Introduction should not contain either results or conclusions.

(iv) *Results*

The Results should be presented in a logical sequence in the text, tables and figures; repetitive presentation of the same data in different forms should be avoided. The Results should not include material appropriate to the Discussion.

(v) *Discussion*

The Discussion should not reiterate Results, but rather should consider them in relation to any hypotheses advanced in the Introduction. This may include an evaluation of methodology and the relationship of new information to the existing body of knowledge in that field.

(vi) *Materials and methods*

Materials and Methods should be described in sufficient detail to allow the experimental work to be reproduced in another laboratory, and to leave the reader in no doubt as to how the results were derived.

**Availability of data, materials and methods:** An inherent principle of publication is that others should be able to replicate and build upon the authors' published claims. A condition of publication is that authors [are required to make materials, data, code](#), and associated protocols promptly available to readers without undue qualifications.

Submission of a manuscript to *Bone Research* implies that materials described in the manuscript, including all relevant raw data, will be freely available to any scientist wishing to use them for non-commercial purposes, without breaching participant confidentiality.

**Data availability statements:** Data availability statements provide a statement about where data supporting the results reported in a published article can be found - including, where applicable, hyperlinks to publicly archived datasets analysed or generated during the study. For all original research articles, we require the provision of data availability statements, examples and details can be seen on our [data policy](#) web page. The statement should be placed at the end of the Methods section (titled, 'Data availability'), after the code availability statement if one is present. For further guidance, please refer to the Data availability and data citations [policy information](#) and [Frequently Asked Questions \(FAQs\)](#).

*Bone Research* strongly encourages that all datasets on which the conclusions of the paper rely should be available to readers. 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. Please see Springer Nature's [information on recommended repositories](#). General repositories - for all types of research data - such as [figshare](#) and [Dryad](#) may be used where appropriate.

Where a widely established research community expectation for data archiving in public repositories exists, submission to a community-endorsed, public repository is [mandatory](#). Persistent identifiers (such as DOIs and accession numbers) for relevant datasets must be provided in the paper.

(vii) *Acknowledgments*

Authors should acknowledge the source of financial grants and other funding, and declare any industrial links or affiliations. The contribution of colleagues or institutions should also be acknowledged. Personal thanks and thanks to anonymous reviewers should not be included.

(viii) *Conflict of interests*

A conflict of interest statement must be included for each contributing author. Please see the Conflict of Interest guidelines in the Editorial Policies section for more information and for guidelines on what constitutes a conflict of interest.

(ix) *References*

References: All necessary references should be included in order to credit previous work directly relevant to the article. References should follow the *Nature* style available in most reference management software. In the text they should appear as superscript numbers starting at 1 and at the end of the paper they should be listed (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 five authors; for papers with more than five authors, the first only 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 must be identified as such. Papers in press and preprints hosted on a recognized server may be included in the list of references.

Personal communications must be allocated a number and included in the list of references in the usual way or simply referred to in the text; the authors may choose which method to use. In either case authors must obtain permission from the individual concerned to quote his/her unpublished work.

Examples:

*Journal article, up to five authors:*

Belkaid, Y. & Rouse, B. T. Natural regulatory T cells in infectious disease. *Nat. Immunol.* **6**, 353–360 (2005).

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

Bonin, M. *et al.* F-ara-A pharmacokinetics during reduced-intensity conditioning therapy with fludarabine and busulfan. *Bone Marrow Transplant.* <http://dx.doi.org/10.1038/sj.bmt.1705565> (2007).

*Journal article, in press:*

Gallardo, R. L., Juneja, H. S. & Gardner, F. H. Normal human marrow stromal cells induce clonal growth of human malignant T-lymphoblasts. *Int. J. Cell Cloning* (in the press).

*Complete book:*

Atkinson, K. *et al.* (eds) *Clinical Bone Marrow and Blood Stem Cell Transplantation* (Cambridge Univ. Press, 2004).

*Chapter in book:*

Harley, N. H. & Vivian, L. in *Mechanisms of Disease* 4th edn, Vol. 2 (eds Sodeman, W. A. & Smith, A.) Ch. 3 (Saunders, 1974).

*Abstract:*

Feig, S. A. *et al.* Bone marrow transplantation for neuroblastoma. *Exp. Hematol.* **13**, abstr. 102 (1985).

*Preprint:*

Starrfelt, J. & Liow, L.H. How many dinosaur species were there? Fossil bias and true richness estimated using a Poisson sampling model (TRiPS). Preprint at <http://biorxiv.org/content/early/2015/12/04/025940> (2015).

*Research dataset:*

Hao, Z., AghaKouchak, A., Nakhjiri, N. & Farahmand, A. Global Integrated Drought Monitoring and Prediction System (GIDMaPS) Data sets. *figshare.* <http://dx.doi.org/10.6084/m9.figshare.853801> (2014).

(x) *Figures*

Figures and images should be labelled sequentially, numbered and cited in the text. Production-quality figures are not required at initial submission, but to avoid potential substantial revisions at later stages you may wish to note some of the guidelines below even at the initial submission stage.

It is recommended that you convert all your figures to JPEG before generating PDFs or uploading individual files. This will reduce the file sizes and the amount of time it takes the files to upload to our submission site and will also give you a closer approximation to the way your figures will appear on our site. If you choose to submit your files in PowerPoint format, please do not make a JPEG of these within PowerPoint. The conversion is more successful when a raw PowerPoint file is submitted.

## General Figure Guidelines

Use distinct colours with comparable visibility and consider colour-blind individuals by avoiding the use of red and green for contrast. Recoloring primary data, such as fluorescence images, to colour-safe combinations such as green and magenta, turquoise and red, yellow and blue or other accessible colour palettes is strongly encouraged. Use of the rainbow colour scale should be avoided. Use solid colour for filling objects and avoid hatch patterns. Avoid background shading. Figures divided into parts should be labelled with a lower-case, boldface 'a', 'b', etc. in the top left-hand corner. Labelling of axes, keys and so on should be in 'sentence case' (first word capitalized only) with no full stop. Units must have a space between the number and the unit, and follow the nomenclature common to your field. Unusual units or abbreviations should be spelled out in full, or defined in the legend.

## Final Figure Submission Guidelines

Should your manuscript be accepted, you will receive more extensive instructions for final submission of display items. However, a summary of our guidelines for final figure preparation are included here.

- Each figure should be saved in a separate file. Figures including multiple parts (e.g. Fig.1a, 1b, 1c) should be saved in a single file (e.g. Figure1a-c). The figure number should be placed above each figure. Figure legends should be inserted in the article's text file.
- Images should be saved in RGB color mode at 300 dpi or higher resolution.
- Use the same typeface (Arial, Helvetica or Times New Roman) for all figures. Use symbol font for Greek letters.
- We prefer vector files with editable layers. Acceptable formats are: .ai, .eps, .pdf, .ps, .svg for fully editable vector-based art; layered .psd or .tiff for editable layered art; .psd, .tif, .jpeg or .png for bitmap images; .ppt if fully editable and without styling effects; ChemDraw (.cdx) for chemical structures.
- Figures are best prepared at the size you would expect them to appear in print. At this size, the optimum font size is 8pt and no lines should be thinner than 0.25 pt (0.09 mm).

Display items that contain chemical structures should be produced using ChemDraw or a similar program. Authors using ChemDraw should use our ChemDraw Template and submit the final files at 100% as .cdx files. All chemical compounds must be assigned a bold, Arabic numeral in the order in which the compounds are presented in the manuscript text.

(xi) *Tables*

Tables should be labelled sequentially as Table 1, Table 2, etc. Each table should be numbered, titled and cited in the text. Reference to table footnotes should be made by using Arabic numerals. Tables should not duplicate the content of the text. They should consist of at least two columns, and each column should have a heading. Authors should ensure that the data in the tables are consistent with those cited in the relevant places in the text, totals add up correctly, and

percentages have been calculated correctly. Unlike figures or images, tables may be embedded into the main manuscript file if necessary, or supplied as separate electronic files.

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 also applies to quotes, 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.

### Artwork Guidelines

#### Color figures

Color figures must be supplied in the following format.

For Single Images:

<b>Width</b>	<b>500 pixels</b> (authors should select "constrain proportions", or equivalent instructions, to allow the application to set the correct height automatically.)
<b>Resolution</b>	<b>125 dpi</b> (dots per inch)
<b>Format</b>	<b>JPEG</b> for photographs <b>GIF</b> for line drawings or charts
<b>Filenaming</b>	Please save image with .jpg or .gif extension to ensure it can be read by all platforms and graphics packages.

For Multi-part Images:

<b>Width</b>	<b>900 pixels</b> (authors should select "constrain proportions", or equivalent instructions, to allow the application to set the correct height automatically.)
<b>Resolution</b>	<b>125 dpi</b> (dots per inch)
<b>Format</b>	<b>JPEG</b> for photographs <b>GIF</b> for line drawings or charts
<b>Filenaming</b>	Please save image with .jpg or .gif extension to ensure it can be read by all platforms and graphics packages.

#### Black and white images

- Image resolution of at least 300 dpi at publication size
- Images should be scanned at a minimum of 300 dpi
- During software manipulation of images, care should be taken that resolution is maintained
- Images may be rotated or scaled, but this must be the same in the x and y dimensions

- Contrast and brightness can be adjusted, but this must be uniform across the entire image, and must not result in the loss of any feature, band or spot. The background should still be visible
- If lanes are removed, and once separate parts of an image are joined together, a black, white or grey line should indicate clearly where the image was cut
- If black borders are drawn around the image, the lines should correspond to all edges where the image was cut
- Protein molecular weights or DNA fragment sizes should be indicated for all figure panels showing gel electrophoresis

### Graphs, Histograms and Statistics

- Error bars must be described in the figure legend
- Axes on graphs should extend to zero, except for log axes
- Statistical analyses (including error bars and p values) should only be shown for independently repeated experiments, and must not be shown for replicates of a single experiment
- The number of times an experiment was repeated (N) must be stated in the legend

### House Style

As the electronic submission will provide the basic material for typesetting, it is important that papers are prepared in the general editorial style of the journal.

1. Do not make rules thinner than 1 pt (0.36 mm)
2. Use a coarse hatching pattern rather than shading for tints in graphs
3. Color should be distinct when being used as an identifying tool
4. Use SI units throughout
5. Spaces, not commas should be used to separate thousands
6. Abbreviations should be preceded by the words for which they stand in the first instance of use and should not be used for terms used fewer than 4 times
7. Text should be double spacing with a wide margin
8. Use a common word-processing package (such as Microsoft Word) for the text. Embed tables converted into images at the end of the Word document, or as a separate file in whichever program you used to generate them
9. If you submit raw data, this can be done in Excel, or tab/comma delimited format
10. At first mention of a manufacturer the town, (state if USA) and country should be provided.
11. All pages and lines are to be numbered. To add page numbers in MS Word, go to Insert then Page Numbers. To add line numbers go to File, Page Setup, then click the Layout tab. In the Apply to box, select Whole document, click Line Numbers then select the Add line numbering check box, followed by Continuous.

## **File Formats**

File formats for manuscript files, figures and tables that are acceptable for our electronic manuscript submission process are given on the online forms. Further advice on file types is also available from the [Tips](#) webpage. Please follow the artwork guidelines above for submitting figures, and use a common word-processing package (such as Microsoft Word) for the text. Either embed tables converted into images at the end of your Word document, or as a separate file in whichever program you used to generate them. If you submit raw data, this can be done in Excel, or tab/comma delimited format.

## **Supplementary information**

Supplementary information is peer-reviewed material directly relevant to the conclusions of an article that cannot be included in the printed version owing to space or format constraints. It is posted on the journal's website and linked to the article when the article is published and may consist of data files, graphics, movies or extensive tables.

The article must be complete and self-explanatory without the supplementary information. Supplementary information enhances a reader's understanding of the manuscript but is not essential to that understanding.

Supplementary information must be supplied to the Editorial Office in its final form for peer review. On acceptance the final version of the peer reviewed supplementary information should be submitted with the accepted manuscript.

To ensure that the contents of the supplementary information files can be viewed by the editor(s), referees and readers, please also submit a 'read-me' file containing brief instructions on how to use the file.

## **Supplying supplementary information files**

Authors should ensure that supplementary information is supplied in its FINAL format because it is not subedited and will appear online exactly as originally submitted. It can neither be altered, nor added to, after the paper has been accepted for publication.

Please supply the supplementary information via eJP, the electronic manuscript submission and tracking system, in an acceptable file format (see below).

Authors should:

- Include a text summary (no more than 50 words) to describe the contents of each file.
- Identify the types of files (file formats) submitted.
- Include the text 'Supplementary information accompanies the manuscript on the *Bone Research*

website <http://www.nature.com/boneres> at the end of the article and before the references.

## **Accepted file formats**

- Quick Time files (.mov)
- HTML files (.html)
- MPEG movie files (.mpg)
- JPEG image files (.jpg)
- Sound files (.wav)
- Plain ASCII text (.txt)
- Acrobat files (.pdf)
- MS Word documents (.doc)
- Postscript files (.ps)
- MS Excel spreadsheet documents (.xls)
- TeX or LaTeX (.tex) files

File sizes must be as small as possible, so that they can be downloaded quickly. Images should not exceed 640 x 480 pixels (approximately 23 x 17 cm at 72dpi), and we would recommend 480 x 360 pixels as the maximum frame size for movies. We also recommend a frame rate of 15 frames per second. If applicable to the presentation of the supplementary information, use a 256-color palette. Please consider the use of lower specification for all of these points if the supplementary information can still be represented clearly. Our recommended maximum data rate is 150 KB/s. The number of files should be limited to eight, and the total file size should not exceed 8 MB. Individual files should not exceed 1 MB. Please seek advice from the Editorial Office before sending files larger than our maximum size to avoid delays in publication.

## **Language Editing**

For editors and reviewers to accurately assess the work presented in your manuscript you need to ensure the English language is of sufficient quality to be understood. If you need help with writing in English, you should consider:

- Asking a colleague who is a native English speaker to review your manuscript for clarity.
- Using a professional language editing service where editors will improve the English to ensure that your meaning is clear and identify problems that require your review. Two such services are provided by our affiliates [Nature Research Editing Service](#) and [American Journal Experts](#).

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Under Creative Commons licences, authors retain copyright in their work. Authors should note that some funders require papers to be published under a specific licence and so should check the funder mandate to ensure compliance.

### Proofs

The corresponding author will receive an e-mail containing a URL linking to the proofing site. Proof corrections must be returned within 48 hours of receipt. Failure to do so may result in delayed publication. Extensive changes cannot be made at this stage.

### Final Publication

The final version of the manuscript is published online and represents the official version of the manuscript.

### Self-Archiving

Authors are encouraged to submit the final version of the accepted, peer-reviewed manuscript to their funding body's archive for public release immediately upon publication and to deposit the final version on their institution's repository. Authors should cite the publication reference and DOI number on any deposited version, and provide a link from it to the published article on the nature.com website.

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### Pre-submission Enquiries

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We only accept manuscript submission 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. If you have not already done so, please register for an account with our online manuscript system. You will be able to monitor the status of your manuscript online throughout the editorial process.

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Authors submitting a revised manuscript after review are asked to include the following:

- (1) A rebuttal letter, indicating point-by-point how you have addressed the comments raised by the reviewers. 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.

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Requirements for all categories of articles largely conform to the standard practices of life sciences journals. A manuscript will be considered for publication with the understanding that:

1. all named authors have agreed to its submission
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3. if the paper is accepted, it will not subsequently be published in the same or similar form in any language without the consent of publisher

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

Other individuals who made direct contributions to the work but do not meet all of the above criteria may be recognized in the Acknowledgments section of the manuscript.

Professional 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 editorial policy of the *Bone Research*.

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In the interests of transparency and to help readers form their own judgements of potential bias, authors must declare whether or not there are any competing interests in relation to the work described. The corresponding author is responsible for submitting a competing interests' statement on behalf of all authors of the paper. This statement must be included in the cover letter and after the acknowledgements of their manuscript. In cases where the authors declare a competing 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.

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For the purposes of this policy, competing interests are defined as financial and non-financial interests that could directly undermine, or be perceived to undermine the objectivity, integrity and value of a publication, through a potential influence on the judgements and actions of authors with regard to objective data presentation, analysis and interpretation.

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It is difficult to specify a threshold at which a financial interest become significant, but note that many US universities require faculty members to disclose interests exceeding \$10,000 or 5% equity in a company (see, for example, B. Lo et al. *New Engl. J. Med.* 343, 1616-1620; 2000). Any such figure is necessarily arbitrary, so we offer as one possible practical alternative guideline: "Any undeclared competing financial 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 must contain an explicit and unambiguous statement describing any potential conflict of interest, or lack thereof, for any of the authors as it relates to the subject of the report. Examples include "Dr. Smith receives compensation as a consultant for XYZ Company," "Dr. Jones and Dr. Smith have financial holdings in ABC Company," or "Dr. Jones owns a patent on the diagnostic device described in this report." These statements acknowledging or denying conflicts of interest must be included in the manuscript under the heading Conflict of Interest. The Conflict of Interest disclosure appears in the cover letter, in the manuscript submission process and before the References section in the manuscript.

Following the Competing Interests heading, there must be a listing for each author, detailing the professional services relevant to the submission. Neither the precise amount received from each entity nor the aggregate income from these sources needs to be provided. Professional services include any activities for which the individual is, has been, or will be compensated with cash, royalties, fees, stock or stock options in exchange for work performed, advice or counsel provided, or for other services related to the author's professional knowledge and skills. This would include, but not necessarily be limited to, the identification of organizations from which the author received contracts or in which he or she holds an equity stake if professional services were provided in conjunction with the transaction.

Examples of declarations are:

- **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.

### Non-financial competing interests:

Non-financial competing interests can take different forms, including personal or professional relations with organizations and individuals. We would encourage authors and referees to declare any unpaid roles or relationships that might have a bearing on the publication process. Examples of non-financial competing interests include (but are not limited to):

- Unpaid membership in a government or non-governmental organization
- Unpaid membership in an advocacy or lobbying organization
- Unpaid advisory position in a commercial organization
- Writing or consulting for an educational company  
Acting as an expert witness

## Ethics and biosecurity

**Studies involving animals and other human subjects**

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, along with a statement confirming that informed consent was obtained from all subjects, 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. *Bone Research* recommends following the [ARRIVE reporting guidelines](#) when documenting animal studies.

### Clinical Trials

As defined by the International Committee of Medical Journal Editors (ICMJE), a clinical trial is any research project that prospectively assigns human subjects to intervention and comparison groups to study the cause-and-effect relationship between a medical intervention and a health outcome. A medical intervention is any intervention used to modify a health outcome and includes but is not limited to drugs, surgical procedures, devices, behavioural treatments, and process-of-care changes. A trial must have at least one prospectively assigned concurrent control or comparison group in order to trigger the requirement for registration. Nonrandomised trials are not exempt from the registration requirement if they meet the above criteria.

When reporting experiments on human subjects, please indicate whether the procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional or regional) or with the Helsinki Declaration of 1975 (as revised in 1983). Include Institutional Review Board or Animal Care and Use Committee approvals.

All clinical trials must be registered in a public registry prior to submission. The journal follows the trials registration policy of the ICMJE ([www.icmje.org](http://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

The trial registry number for eligible papers will be collected during the submission process.

### Informed Consent

When publishing identifiable images from human research participants, authors must include a statement attesting that they have obtained informed consent for publication of the images. If the participant is deceased, consent must be sought from the next of kin of the participant. All reasonable measures must be taken to protect patient anonymity. Black bars over the eyes are not acceptable means of anonymization. In certain cases, the journal may insist upon obtaining evidence of informed consent from authors. Images without appropriate consent will be removed from publication.

### Biosecurity Policy

The Editor 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.

### Image Integrity and Standards

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.
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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.

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An inherent principle of publication is that others should be able to replicate and build upon the authors' published claims. We strongly encourage that all datasets on which the conclusions of the paper rely should be available to readers. 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. If a public repository does not exist, the information must be made available to editors and 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 include details of how materials and information may be obtained.

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- make inquiries of other titles believed to be affected;
- forward concerns to the author's employer or person responsible for research governance at the author's institution;
- 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 anonymized 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.

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Papers must be original and not published or submitted for publication elsewhere. This rule also applies to non-English language publications.

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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.

### Toolkits

Springer Nature endorses the toolkits and guidelines produced by the following bodies:

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[Medical Publishing Insights and Practices Initiative](#)

### Supplementary information for editors and reviewers

Any manuscripts under review or accepted for publication elsewhere should accompany the submission if they are relevant to its scientific assessment.

Authors should also provide upon submission any kind of supplementary material that will aid the review process.

### Peer Review

The journal operates single blind peer 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, as well as request individuals or laboratories. All recommendations are considered, but the choice of reviewers is at the editors’ discretion. 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. The editors then make a decision based on the reviewers' evaluations:

- Accept, with or without editorial revisions.
- Revise, with the author addressing concerns raised by the reviewers before a final decision is reached.
- Reject, but indicate to the authors that further work might justify a resubmission.

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

### Selecting Peer Reviewers

Reviewer selection is critical to the publication process, and the editors’ choice is based on many factors, including 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).

### Appeals

Even in cases where editors did not invite resubmission, some authors ask the editors to reconsider a rejection decision. These are considered appeals, which, by policy, must take second place to the normal workload. In practice, this means that decisions on appeals often take several weeks. Only one appeal is permitted for each manuscript, and appeals can only take place after peer review.

Decisions are reversed on appeal only if the editors are convinced that the original decision was a serious mistake, not merely a borderline call that could have gone either way. Further consideration may be merited if a referee made substantial errors of fact or showed evidence of bias, but only if a reversal of that referee's opinion would have changed the original decision. Similarly, disputes on factual issues need not be resolved unless they were critical to the outcome. Thus, after careful consideration of the authors' points, most appeals are rejected by the editors.

If an appeal merits further consideration, the editors may send the authors' response or the revised paper to one or more referees, or they may ask one referee to comment on the concerns raised by another referee. On occasion, particularly if the editors feel that additional technical expertise is needed to make a decision, they may obtain advice from an additional referee.

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