

AIMS AND COVERAGE

The British Journal of Radiology (BJR) is the official peer-reviewed monthly research journal of the British Institute of Radiology (BIR). It is a multi-disciplinary journal covering all clinical and technical aspects of diagnostic imaging, radiotherapy and oncology, medical physics and radiobiology. BJR is an international journal containing papers both from the UK and overseas, and is circulated to Full Members of the BIR and to libraries worldwide.

BJR ONLINE

BJR is published in electronic format as BJR Online and is available on the Internet to all BJR subscribers and BIR Members through HighWire Press at <http://bjr.birjournals.org/>

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SUBMISSION

Manuscripts should be submitted online at <http://bjr.edmgr.com>.

Online submission will expedite the peer-review process. You will also be able to check the status of your submission online.

The BJR Editorial Administrator will be pleased to update authors on the status of their manuscript. Each paper is allocated a reference number, which should be quoted in any communication with the BJR in connection with that paper.

Submission of a paper is intended to imply that it presents original unpublished work, not under consideration for publication elsewhere.

PEER-REVIEW PROCESS

All submitted manuscripts will undergo peer-review. Each manuscript is normally allocated to two reviewers from a constantly updated database containing over 800 reviewers. Reviewers receive manuscripts with blind title pages to ensure an unbiased review.

Publication times: The time from submission to first decision averages 54 days. Papers are normally published within six months of acceptance.

Reviewers are asked to provide detailed constructive criticism for transmission to the authors. BJR requests that reviewers return their reports within 3 weeks of agreeing to review a paper. All efforts are taken to provide fair and thorough reviews as speedily as possible.

Having appraised the reviewers' reports, the Editors will make a final decision on each manuscript.

Categories of decision

- Accept
- Probable acceptance following minor revision
- Possible acceptance following major revision
- Reject

When revisions are requested, all points raised by the reviewers must be answered by the authors on a separate sheet, returned with their revised manuscript. However, if the authors disagree with specific reviewers' recommendations, authors are free to explain their reasoning when resubmitting their paper.

Authors should also be aware that manuscripts may be returned without external review when the Honorary or Deputy Editor deems that the paper is of insufficient general interest for the broad readership of the BJR, or that the scientific quality is such that it is unlikely to receive favourable reviews. Editorial rejection is done to speed up the editorial process and to allow the authors' papers to be promptly submitted and reviewed elsewhere.

CATEGORIES OF PAPER

BJR includes the following categories of paper, each serving a separate purpose:

- Full papers
- Commentaries
- Review articles
- Short communications
- Case reports
- Case of the Month
- Pictorial Reviews
- Letters to the Editor
- Book reviews

In addition to the general guidelines on preparation of a manuscript, please follow the guidelines overleaf for the specific type of paper.

A TYPICAL BJR PAGE CONTAINS:

1,000 words of text, or 4 average size tables, or 6 average size figures, or 40 references.

SHORT COMMUNICATIONS

This category of paper encompasses work-in-progress, short reports, technical notes etc.

- Authors of short communications should aim to be as concise as possible and should not include too many references.

In general, a short communication should be no more than three BJR pages in length.

CASE REPORTS

Case reports should be a brief description of a case with unique features not previously reported, e.g. previously unreported:

- clinical condition;
- relevant imaging observations on recognized disease or lesion;
- interventional technique in a recognized disease;
- complication of a radiological procedure.

In general, a case report should not exceed three BJR pages in length.

CASES OF THE MONTH

These are short papers reporting a case that illustrates a point of particular educational value.

- A case of the month should be two BJR pages in length.
- The relevant history and initial images will appear on the first page, presenting a specific problem to the reader.
- On the second page, printed overleaf, will appear the results of further investigations and a discussion of the conclusion, followed by a brief and up-to-date review of the subject, with a maximum of six references.
- A case of the month should have no more than three authors.
- Radiotherapy and oncology papers, as well as diagnostic papers, are welcomed.

PICTORIAL REVIEWS

The aim of a "pictorial review" is to provide an up-to-date visual portrayal of a topical issue, having particular educational value. The amount of text should be kept to a minimum (1,000 words maximum). The article may be based on a poster presentation at a major meeting.

- The paper should be a maximum of six BJR pages.
- No more than eight key references should be included.

FULL PAPERS

Follow the general guidelines for preparing a manuscript when submitting full papers.

REVIEW ARTICLES

Longer review articles are published in the BJR. These will usually be solicited by the Honorary Editors. However, the Editors will be happy to consider proffered review articles and suggestions for such material. All review articles will undergo peer-review.

COMMENTARIES

Commentaries cover specific, sometimes controversial, subjects that are currently of topical interest. Two types of article fall into this category.

- *Based on a current hot topic.* A "personal view" of a current important and possibly controversial topic. The author should briefly explain the current position in the topic covered, and outline the various viewpoints that exist. The author should then go on to expound his/her own particular beliefs or analysis of the situation, perhaps indicating how he/she envisages research or practice progressing in the short- or long-term.
- *Based on a scientific meeting.* A discussion or review of one or more topics raised at the meeting. Authors who wish to write such an article should initially contact the BJR Honorary Editors, to avoid several reports being submitted based on the same meeting. It is not intended that the article should be a detailed account of the events of the meeting – rather, it should summarize the status of the topic covered, making general points of clarification and perhaps raising controversial issues or pointers for the future. The author is welcome to explain his/her own personal views on the topic.

Every effort will be made to fast-track Commentaries based on meetings through the peer-review process so that their appearance in print is timely.

Commentaries should be approx. 800–2500 words, including no more than six references.

LETTERS TO THE EDITOR

Letters to the Editor intended for publication in the Correspondence section fall into two categories.

- A letter on any matter of interest to readers of the BJR.
- A letter commenting on an article that has appeared in a previous issue of BJR. These will be forwarded to the authors of that article to allow them to reply. If accepted, the letters will be published together.
- Correspondence should not, unless absolutely necessary, contain tables or figures.
- All authors to a letter must sign it.

PREPARATION OF MANUSCRIPTS

General guidelines for all manuscript types are given below.

- All papers must be written in English.
- The manuscript, including references, tables and figure legends, should be typed in double line spacing, with margins of at least 25 mm on each side.
- Manuscripts should be submitted online at <http://bjr.edmgr.com>. Authors unable to submit online should contact the Editorial Office, bjroffice@bir.org.uk.
- Neither authors' names nor their affiliations should appear anywhere on the manuscript pages or the images (to ensure blind peer-review).

Title page

The title page, as a separate submission item, should provide the following information:

- Title of the paper. Abbreviations other than CT or MRI should not be used in the title.
- Category of paper (unless Full Paper).
- Names of the authors, which should comprise: initials, surnames plus qualifications (not more than three qualifications per author).
- The address(es) where the work reported in the paper was carried out (do not use abbreviations), linked to the appropriate author(s) using superscript numerals.
- If the corresponding author's address has changed, the current address may be included as a footnote, linked to the relevant name by an asterisk.
- A shortened version of the title (no more than 70 characters in length, including spaces) should be provided for use as the running head. Abbreviations are permissible.
- Footnotes stating a conference or meeting where a paper was presented should not be included.
- Footnotes stating any source of funding or financial interest where relevant should be included.

Blind title page

A blind title page should be included with the full manuscript, giving only the title (i.e. without the authors' names and affiliations), for use in the peer-review process.

Abstract

The abstract should be an accurate and succinct precis of the paper, not exceeding 250 words. It should not contain references. The abstract should: indicate the specific objective or purpose of the article; describe the methods used to achieve the objective, stating what was done and how it was done; present the findings of the methods described – key statistics should be included; present the conclusion of the study, based solely on the data provided.

Main text

The main body of a paper should begin on the page following the abstract.

- There are no stringent rules regarding the use of specific headings, but the general guideline is to organize text to include the following sections: Introductory section: briefly describe the objective of the investigation and explain why it is important; Methods and materials/patients: describe the research plan, the materials or subjects, and the methods used; Results: present results in a clear logical sequence. If

tables are used, do not duplicate tabular data in the text, but do describe important trends and points; Discussion; Conclusion; Acknowledgments (if relevant).

- Avoid repetition between sections.
- Abbreviations and acronyms may be used where appropriate, but must always be defined where first used.
- The names and locations (town, country) of manufacturers of all equipment and non-generic drugs must be given.
- For the purposes of clarity, up to three clearly differentiated levels of subheading may be used.
- Avoid the use of footnotes.

References

Authors are responsible for the accuracy of the references. Only papers closely related to the work should be cited; exhaustive lists should be avoided. All references must appear both in the text and the reference list.

- References should follow the Vancouver format.
- In the text, references are cited in numerical order as numerals in square brackets. Within the brackets, numerals are –separated by commas, and three or more consecutive references are given as ranges, e.g. [1, 2, 7, 10–12, 14].
- At the end of the paper, starting on a new page, references should be listed in numerical order corresponding to the order in which they appear in the text.
- A reference cited in a table or figure caption counts as being cited where the table or figure is first mentioned in the text.
- Papers in press may be included in the list of references.
- Do not include references to uncompleted work or work that has not yet been accepted for publication. Abstracts and/or papers presented at meetings not in the public domain should not be included as references.
- References to private communications should be given only in the text (i.e. no number allocated). The author and year should be provided.
- If there are 6 or fewer authors, list them all. If there are 7 or more, list the first 6 followed by et al.
- Abbreviations for titles of medical periodicals should conform to those used in the latest edition of Index Medicus.

Examples of references

- Journal article: Include author names and initials, paper title, abbreviated journal title, year of publication, volume number, and first and last page numbers of paper: e.g.
 1. Pages J, Buls N, Osteaux M. CT doses in children: a multicentre study. *Br J Radiol* 2003;76:803–11.
- Complete book: Include authors'/Editors' names, title of the book, town/country of publication and publisher name, and year of publication: e.g.
 2. Peters AM, editor. *Nuclear medicine in radiological diagnosis*. London, UK: Martin Dunitz, 2003.
- Chapter in book: Include authors of the relevant chapter, title of chapter, followed by "In: " and editors' names, title of book, town/country of publication and publisher name, year of publication, and first and last page numbers of material cited: e.g.
 3. Brooks DJ. Functional imaging of movement disorders. In: Peters AM, editor. *Nuclear medicine in radiological diagnosis*. London,

UK: Martin Dunitz, 2003: 449–66.

- Conference proceedings: Include names of editors, title of publication, title of meeting, date and location of meeting, town/country of publication and publisher name, and year of publication: e.g.
4. Ring EFJ, Elvins DM, Bhalla AK, editors. Current research in osteoporosis and bone mineral measurement IV: 1996. Proceedings of the 1996 Bath Conference on Osteoporosis and Bone Mineral Measurement; 1996 June 24–26; Bath, UK. London, UK: British Institute of Radiology, 1996.
- Conference paper: Include author(s) and title of paper followed by "In:" and the details of the Conference Proceedings in which it appears – see above.
 - Journal article on the internet:
5. Abood S. Quality improvement initiative in nursing homes: the ANA acts in an advisory role. *Am J Nurs* [serial on the Internet]. 2002 Jun [cited 2002 Aug 12];102(6):[about 3 p.]. Available from: <http://www.nursingworld.org/AJN/2002/june/Wawatch.htm>
- Homepage/Web site:
6. Cancer-Pain.org [homepage on the Internet]. New York: Association of Cancer Online Resources, Inc.; c2000-01 [updated 2002 May 16; cited 2002 Jul 9]. Available from: <http://www.cancer-pain.org/>.

Tables

- Tables should be referred to specifically in the text of the paper but provided as separate files.
- Number tables consecutively with Arabic numerals (1, 2, 3, etc.), in the order in which they appear in the text.
- Each table should have a short descriptive title.
- Tables should be self-explanatory and not duplicate data given in the text or figures.
- Aim for maximum clarity when arranging data in tables. Where practicable, entries in tables of figures should be confined to one line (row) in the table, e.g. "value (\pm sd) (range)" on a single line is preferred to stacking each entry on three separate lines.
- Ensure that all columns and rows are properly aligned.
- Include horizontal rules at the top and bottom of a table and one below the column headings. If a column heading encompasses two or more subheadings, then the main headings and subheadings should be separated by a single short rule. No other rules should be included, neither horizontal nor vertical.
- Appropriate space should be used to separate columns. Rows should be double-spaced.
- A table may have footnotes if necessary. These should be referred to within the table by superscript letters, which will then also be given at the beginning of the relevant footnote. Each footnote should begin on a new line. A general footnote referring to the whole table does not require a superscript letter.
- Abbreviations in tables should be defined in footnotes even if defined in the text or a previous table.

Figures

Figures should be referred to specifically in the text of the paper. Number figures consecutively using Arabic numerals. Concise, numbered legend(s) should be listed on a separate sheet. Avoid repeating material from the text. Abbreviations used in figures should be defined in the caption.

Files

- Image files should be supplied in EPS, TIFF or JPEG format.
- TIFF is preferred for halftones, i.e. medical images such as radiographs, MR scans etc.
- EPS is preferred for drawn artwork (line drawings and graphs).
- For JPEG files, it is essential to save at maximum quality, i.e. "10", to ensure that quality is satisfactory when the files are eventually decompressed.
- DO NOT supply PowerPoint files as these may be problematic with respect to quality rendering. Files supplied in Word or Excel may prove acceptable, but please supply in EPS, TIFF or JPEG if practicable. Other formats will not be usable.
- DO NOT supply GIF files – GIF is a compressed format that can cause quality problems when printed.
- Each figure should be uploaded separately and numbered.

Colour

- Unless essential to the content of the article, all illustrations should be supplied in black and white with no colour (RGB, CMYK or Pantone references) contained within them.
- If a paper contains colour figures, authors should state in the notes section of the submission page whether or not they feel it is vital that these figures are printed in colour if the paper is accepted. If the Editors agree that it is important for the figures to be in colour, they will be reproduced in colour AT NO COST TO THE AUTHOR. The Editors reserve the right to ask for a colour illustration to be converted to black and white
- Images that do need to be reproduced in colour should be saved in CMYK, with no RGB or Pantone references contained within them.

Resolution

- Files should be saved at the appropriate dpi (dots per inch) for the type of graphic (the typical screen value of 72 dpi will not yield satisfactory printed results). Lower resolutions will not be usable.
- Line drawings – save at 800 dpi (or 1200 dpi for fine line work).
- Halftone and colour work – save at 300 dpi.

Composition

- The image should be cropped to show just the relevant area (i.e. no more than is necessary to illustrate the points made by the author whilst retaining sufficient anatomical landmarks). The amount of white space around the illustration should be kept to a minimum.
- Supply illustrations at the size they are to be printed, usually 76 mm wide (single column of text) or for especially large figures 161 mm (two columns of text). The intermediate width of 100 mm is also available should neither of these suffice.
- Annotations, e.g. arrows, should be used to indicate subtle but salient points. All annotations should be included within the images supplied.

- Patient identification must be obscured.

Additional points to note

- Do not put a box around graphs, diagrams or other artwork.
- Avoid background gridlines unless these are essential (e.g. confidence limits).
- Fonts should be Adobe Type 1 standard – Helvetica or Times are preferred.
- Ensure that lettering is appropriately sized – should correspond to 8 or 9 pt when printed.
- Include all units of measurement on axes.
- All lines (e.g. graph axes) should have a minimum width of ¼ pt (0.1 mm) otherwise they will not print; 1 pt weight is preferable.
- Avoid using tints (solid black and white or variations of crosshatching are preferred), but any tints that are used must be at a minimum 5% level to print (but do not use too high a tint as it may print too dark).
- Do not use three-dimensional histograms when the addition of a third dimension gives no further information.

Appendices

Authors are discouraged from including appendices if the material can be included in the main text. If an appendix is necessary, e.g. mathematical calculations that would disrupt the text, it should be supplied as a separate file. If more than one appendix is included, these should be identified using different letters.

- An appendix may contain references, but these should be listed separately and numbered A1, A2, etc.
- Appendices must be referred to in the main text.

ETHICS

When reporting experiments on human or animal subjects, the authors must indicate that the procedures followed were in accordance with the ethical standards of the responsible committee on human or animal experimentation (institutional or regional) or with the Helsinki Declaration of 1975, as revised in 1983. Patients' names, initials or hospital numbers should not be used, especially in illustrative material [3]. Papers submitted from overseas should adhere to UK ethical requirements.

Patient consent

Patient anonymity must be maintained. If there is any possibility that the patient can be identified in an illustration, written consent must be obtained from the patient/parent/guardian by the author, and a line stating that this has been received must be included in the figure caption.

BJR authors are of course aware that trust between doctor and patient is of paramount importance: the informed consent of all patients participating in reported trials must be obtained and a statement to this effect must be included in submitted manuscripts, when relevant.

Original data

The Editors reserve the right to ask to inspect the raw data on which the results of a submitted article are based.

UNITS, SYMBOLS AND MATHEMATICS

Authors should use the International System of Units (SI) [1]. Units of radiation should be given in SI, e.g. 1 Sv, 1 Gy, 1 MBq. Exceptions

are mmHg for blood pressure and g dl⁻¹ for haemoglobin. For guidance, authors can refer to the publication Units, Symbols and Abbreviations. A guide for medical and scientific authors [2].

- All radiation factors (dose/time/fractionation) must be listed.
- Equations should be numbered (1), (2) etc. to the right of the equation. Do not use punctuation after equations.
- Do not include dots to signify multiplication – parameters should simply be typed closed up, or with a multiplication sign if necessary to avoid ambiguity.

STATISTICAL GUIDELINES

The aim of the study should be clearly described and a suitable design, incorporating an appropriate number of subjects, should be used to accomplish the aim. It is frequently beneficial to consult a professional statistician before undertaking a study to confirm it has adequate power, and presentation of a power calculation within the paper demonstrates the ability of the study to detect clinically or biologically meaningful effects.

Details should be provided on selection criteria, whether data were collected prospectively or retrospectively, and any exclusions or losses to follow-up that might affect the study population. Information on subject characteristics in groups being compared should be given for any factors that could potentially bias the comparison of the groups; such information is often best presented in a tabular format in which the groups are in adjacent columns. If the study was randomized, details of the randomization procedure should be included.

Measures of variation should be included for all important results. When means are presented, the standard deviation or the standard error of the mean should also be given, and it should be clear which of these two measures is being quoted. When medians are given, measures of variation such as the interquartile range or overall range should also be included. Estimates of differences, e.g. between two means being compared, should be provided with 95% confidence limits to aid the reader and author to interpret the results correctly. Note that estimation of the size of effects, e.g. treatment or prognostic factor effects, is as important as hypothesis testing.

Statistical procedures should be described and referenced for all p-values given, and the values from which they were derived should be included. The validity of statistical procedures should also be confirmed, e.g. the t-test requires normal distribution(s) in the basic data and the χ^2 test is not valid when the expected numbers in cells are less than 5. Data may sometimes be transformed, e.g. using a log or square root transformation, to achieve normality. Non-parametric tests should be used when the conditions for normality are not met. It should be noted, however, that the Wilcoxon signed rank test (the non-parametric equivalent of the paired t-test) is semi-quantitative. If more than two groups are being compared then an analysis of variance should be performed before undertaking comparisons of pairs of groups. You are advised to seek the help of a professional statistician if you are uncertain of the appropriateness or interpretation of statistical methods.

Analysis of repeated measurements on the same subject can give rise to spurious results if comparisons are made at a large number

of different time points. It is frequently preferable to represent each subject's outcome by a single summary measure chosen for its appropriateness. Examples of such measures are the area under the curve, the overall mean, the maximum or minimum, and the time to reach a given value. Simple statistics can then be applied to these summary measures.

The results of the evaluation of a test procedure should state clearly the criteria used to define positivity, and the sensitivity, specificity, positive predictive value and negative predictive value should all be quoted together with their 95% confidence limits.

AUTHORSHIP

All authors are required to identify their manuscript contributions for which they are responsible. The author(s) responsible for the integrity of the entire study should also be identified. To be listed as an author, an individual should have made substantial contributions to all three categories established by the International Committee of Medical Journal Editors (ICMJE): (a) "conception and design, or acquisition of data, or analysis and interpretation of data"; and (b) "drafting the article or revising it critically for important intellectual content"; and (c) "final approval of the version to be published" (www.icmje.org) [3]. The ICMJE further states that "Acquisition of funding, the collection of data, or general supervision of the research group, by themselves, do not justify authorship." BJR asks that authors fulfill the ICMJE requirements to be so listed.

The Honorary Editors require that the Author Contribution List is completed and sent to the BJR Editorial Office along with the Transfer of Copyright Agreement. The form can be downloaded from <http://bjr.edmgr.com>.

Individuals who have not made substantial contributions in all three categories but who have made substantial contributions either to some of them or in other areas should be listed in the Acknowledgments.

Once a manuscript has been received by BJR, any changes in authorship will necessitate additional information. (a) The addition of an author requires that a letter be signed and submitted by all authors indicating agreement with both the addition and the placement of the proposed author in the listing of authors. A Transfer of Copyright Agreement form should be submitted after it has been signed by the additional author. The author's contribution information should also be provided. (b) Deletion of an author requires that a letter be signed and submitted by the author to be deleted indicating his or her agreement to be deleted from the listing of authors and, if to be added to the Acknowledgments section, a mention in the letter by that author as to agreement with the same. (c) Rearrangement of the placement of authors in the listing of authors requires a letter from all authors agreeing to the same.

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A Transfer of Copyright Agreement must be submitted with each manuscript, transferring copyright in the article to the BIR, effective if and when the article is accepted for publication in BJR. The form can be downloaded from <http://bjr.edmgr.com>. All authors must sign the form.

Manuscripts submitted to BJR must not be under consideration for publication elsewhere. The paper should not have been published previously and should not contain previously published material, unless appropriate permission has been obtained (see section on Prior publication below).

In the case of officers or employees of the US government, the BIR recognizes that works prepared as part of their official government duties are in the public domain; but they must still sign the copyright agreement.

PRIOR PUBLICATION

In the event of it being necessary to include a previously published figure, table or other material in a paper, authors must obtain written copyright permission from the relevant source (publisher and/or author) prior to submission. A copy of the letter granting permission to reproduce this both in hard copy and electronic forms, including Online, should be sent to the BIR with the manuscript. Any such material must be clearly noted and its source given in the manuscript.

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PROOFS

The corresponding author will receive page proofs as a PDF file by email approximately 2 months before the paper is due to be published. By approving the proofs, any editorial changes are being accepted.

OFFPRINTS and REPRINTS

25 offprints of each published paper will be supplied free of charge. Additional offprints may be ordered on a form accompanying the proofs.

- Offprints are printed at the same time that the journal is printed, so authors will receive their offprints shortly after publication of their paper. They will then be invoiced for any additional costs associated with their offprint order.
- A paper can be reprinted following publication, although charges are necessarily higher if orders for reprints are received after the issue has gone to press. Please contact the BIR Publisher for quotes: Tel +44 (0)20 7307 1402; Fax +44 (0) 20 7307 1414; E-mail publications@bir.org.uk

References

1. Goldman DT, Bell RJ, editors. The International System of Units (SI) (5th edn). London, UK: HMSO, 1987.
2. Baron DN, editor. Units, symbols and abbreviations. A guide for medical and scientific authors (5th edn). London, UK: Royal Society of Medicine Press, 1994.
3. International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. *Ann Intern Med* 1997;126:36–47. [www.icmje.org]