

Clinical SCIENCE

AN INTERNATIONAL JOURNAL OF CLINICAL & MOLECULAR INVESTIGATION

Guidance for Authors

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I POLICY OF THE JOURNAL

I.1 Scope

Clinical Science is the voice of academic medicine. Its international Editorial Board is charged with selecting original papers of high scientific merit in the following subject categories:

- Cardiovascular System
- Gastrointestinal Tract and Liver
- Genetics and Functional Genomics
- Immunity, Inflammation and Oncology
- Metabolism, Endocrinology and Nutrition
- Nephrology and Circulation
- Neuroscience
- Respiratory System
- Vascular Biology

The journal publishes five types of manuscript, namely invited Reviews, Full Papers, Accelerated Publications (concise high-quality papers), Correspondence and invited Comments.

I.2 Clinical Science Online (<http://www.clinsci.org>)

Access to papers published in Clinical Science Online in 2004 is restricted to institutions that have a subscription. To ensure you have access, ask your subscribing librarian to contact subscriptions@portland-services.com. An electronic back archive is freely available to all users with internet access.

(a) Immediate Publications

PDFs of manuscripts are mounted on the Journal's website as Clinical Science Immediate Publications as soon as they are accepted, unless on submission the author has requested that this not be done. Clinical Science Immediate Publications are listed in and accessible

through Medline.

(b) Medline links and inter-journal linking

Clinical Science Online provides links to Medline citations, to related papers in Medline, to Medline citations for downloading to citation management software, and from references to relevant abstracts in other online journals.

(c) Multimedia adjuncts

Clinical Science Online offers authors the opportunity to enhance their papers with multimedia adjuncts (e.g. time-lapse movies, three-dimensional structures). These will be submitted to peer review alongside the manuscript. To submit a paper with a multimedia adjunct, attach the file when you submit your manuscript online. Preferred formats are QuickTime for time-lapse movies and PDB for structures. There is no extra charge associated with the publication of a multimedia adjunct online.

1.3 The editorial process

A submitted paper is considered by an appropriate Editor together with (usually) one Referee from the Editorial Advisory Panel. The Editor returns it with a recommendation to the Associate Editor, who then writes formally to the authors. The ultimate responsibility of acceptance for publication lies with the Editor in Chief.

Authors may suggest potential reviewers for their paper in the letter of submission, but the journal will usually regard such suggestions as a guide only and is under no obligation to follow them. Authors may also specify the names of those they wish to be excluded from the review process for a particular paper; in such cases their wishes are usually respected, unless, of course, in the opinion of the journal such a request unreasonably excludes all of the expertise available to it in that scientific area.

1.4 Ethics

(a) Human experimentation

Authors must state in the text of their paper that the research has been carried out in accordance with the Declaration of Helsinki (2000) of the World Medical Association, and has been approved by the Ethics Committee of the institution in which the work was performed. Consent **must** be obtained from each patient or subject after full explanation of the purpose, nature and risk of all procedures used, and the fact that such consent has been given should be recorded in the paper.

(b) Animal experimentation

Care must always be taken to ensure that experimental animals do not suffer unnecessarily. Authors must state in the text the anaesthetic procedures used in full, and all precautions they took to ensure that the animals did not suffer unduly during and after the experimental procedure. Authors must confirm that the work was undertaken as required by the appropriate institutional and national animal care committees, or, in the absence of such legislation, that the experimental procedures were

carried out in accordance with the United States NIH guidelines [Guide for the Care and Use of Laboratory Animals (1985), DHEW Publication no. (NIH) 85-23: Office of Science and Health Reports, DRR/NIH, Bethesda, MD, U.S.A.].

(c) Scientific publication

Clinical Science is a member of COPE (Committee on Publication Ethics) and endorses its guidelines, which are available at <http://www.publicationethics.org.uk>

Notwithstanding, the Editorial Board will not accept papers where the ethical aspects are, in the Board's opinion, open to doubt.

1.5 Originality of papers

Submission of a paper to *Clinical Science* implies that it has been approved by all the named authors, that all persons entitled to authorship have been so named, that it reports unpublished work that is not under consideration for publication elsewhere, that proper reference is made to the preceding literature, and that if the paper is accepted for publication the authors will transfer to the Biochemical Society the copyright of the paper, which will then not be published elsewhere in the same form, in any language, without the consent of the Society (see 2.13). Authors will be required to sign an undertaking to these effects. The restriction on previous publication does not usually apply to previous publication of oral communications in brief abstract form or as preprints. In such cases authors should enclose three copies of the abstracts of previous publications or provide the URL of the preprint server. However, the restriction does apply to complete papers published on the Web. Requests for consent for reproduction of material published in *Clinical Science* should be addressed to the Managing Editor.

1.6 Declaration of financial interests

Authors are strongly encouraged to disclose all relevant competing interests and sources of research funding that could be perceived to compromise the integrity of their article published in *Clinical Science*.

2 ONLINE SUBMISSION OF PAPERS: GENERAL INFORMATION AND FORMAT

2.1 Online submission of papers

(a) Easy steps to submission as PDF

Step 1. Prepare the text in Microsoft word 6.0 or a later version. Do not use Asian fonts as this will make your manuscript unreadable for reviewers. Use standard fonts such as Times or Times New Roman and Symbol font for Greek and other special characters.

Step 2. Prepare graphics at publication quality resolution, using applications capable of generating high resolution TIFF or EPS files. Number each figure.

Step 3. Using Adobe Acrobat (see <http://adobe.com/products/main.html> for information), save your manuscript text and graphics in a single file in PDF format

(one and a half line spacing). The PDF file should be printed and carefully reviewed before final submission. It is this version that is circulated on the Web for review. For detailed information on how to generate a PDF file go to <http://www.clinsci.org/cs/submitpdf.htm>.

Step 4. After converting your manuscript text and figures to a single PDF file, carefully review a printed copy. Check file size (about 1 MB or less, but should not exceed 5 MB). If the file size exceeds 5 MB, please see <http://www.clinsci.org/cs/submitpdf.htm> for suggestions.

Step 5. Submit the necessary information using the submission template at the web site <http://www.clinsci.org/submit/>. You will need:

- Contact information for the Submitting Author
- Information about the authors and the manuscript
- A cover letter
- The text and graphic PDF file for your manuscript (one and a half line spacing)

(b) Submission not in PDF format

If you cannot submit your manuscript as a PDF file, you may submit separate text and graphics files online. We will only accept the text of your manuscript as a Microsoft Word file created with MS Word 6.0 or a later version. Other word processing programs will not work for review. Do not use Asian fonts as this will make your manuscript unreadable for reviewers. Use standard fonts such as Times New Roman and Symbol font for Greek and other special characters. Do not embed figures in the text and be sure the number of the figure is visible in the figure. The MS Word, TIFF and EPS files will be converted into a PDF file by the Editorial Office. However, you will be asked to approve the electronic version of the manuscript after the conversion to PDF. Carefully review a printed copy for changes in figures, formatting and symbols. A delay in review will occur if corrections are necessary because the manuscript must be resubmitted.

At this stage in the submission process we will accept graphics saved as TIFF, EPS, GIF, JPEG or BMP files. For graphics, we cannot accept certain application programs such as Microsoft Office (PowerPoint, Word, Excel, Access), Corel Perfect Office (Wordperfect, Quattro Pro, Presentations), Lotus SmartSuite (Freelance Graphics, 1-2-3, Approach, WordPro) and SigmaPlot. However, most of these applications will allow you to save graphics in one of the above formats.

2.2 Addresses and general information

(a) Correspondence about papers from the USA, Canada, Mexico and Central and South America should be sent to: Dr Sharon Schendel, Administrative Editor, *Clinical Science* US Office, The Burnham Institute, 10901 N Torrey Pines Road, La Jolla, CA 92037, U.S.A., telephone: +1 858 713 6283; fax: +1 858 713 6284; e-mail: editorial@csonlineusa.org.

(b) Correspondence about papers from all other countries, proofs, offprints and requests for permission to reproduce material should be addressed to: Dr James Mockridge, Executive Editor, *Clinical Science*, 59 Portland Place,

London W1B 1QW, U.K., telephone: (U.K.) 020 7637 5873; (from overseas) +44 20 7637 5873; fax: (U.K.) 020 7323 1136; (from overseas) +44 20 7323 1136; e-mail: editorial@portlandpress.com.

Papers should be presented so that they are intelligible to the non-specialist reader of the journal. This is particularly important in highly specialized fields, and a very brief résumé of the current state of knowledge is usually helpful. Certain types of material, e.g. mathematical formulations requiring more than trivial derivations, should be given in a separate Appendix.

Where the reader is referred to previous works by the same author(s) for important details relevant to the present work, three copies or reprints of the publication (including papers on the WWW) should be submitted alongside the manuscript. This is of particular importance in relation to methodology.

The dates of receipt and acceptance of the paper will be published. If the paper has to be returned to the authors for revision and is not resubmitted within 1 month, the date of receipt will be revised accordingly and the revised paper may be treated as a new submission. It is emphasized that badly presented or unduly long papers will be returned for revision and delays in publication will be inevitable. Similar delays will be incurred if the typescript is not prepared strictly in accordance with the instructions detailed below.

2.3 Accepted papers

On acceptance, authors will be requested to supply a Word file of the final version of their paper to the Editorial Office. Every effort will be made to use the Word file during typesetting, but this cannot be guaranteed. Authors must ensure that the file has been updated to incorporate all revisions, and hence that the file matches the final version of the manuscript seen by the reviewers. Our preferred word-processing format is Microsoft Word for Windows version 6.0. The Word file should be supplied in an e-mail specifying the manuscript number, operating system and software program.

(a) Text

Files should be formatted double-spaced with no hyphenation and automatic wordwrap (no hard returns within paragraphs). Please type your text consistently, e.g. take care to distinguish between '1' (one) and 'l' (lower case L), and '0' (zero) and 'O' (capital O), etc.

(b) Tables

Tables should be typed as text. The use of graphics programs and 'table editors' should be avoided.

(c) Figures

No artwork should be incorporated into the text files. Figures are normally handled conventionally, but artwork may be provided on disk either in TIFF or EPS format and saved as a separate file. Hard copy of illustrations must also be supplied (see 3.10).

(d) Mathematics

In-line equations should be typed as text. The use of graphics programs and 'equation editors' should be avoided. Displayed equations (unless prepared by the 'MathType Equation Editor') are re-keyed by our printer.

2.4 Full Papers

These may be of any length that is justified by their content. Authors should, however, note that, because of pressure for space in the journal, no paper, whatever its scientific merits, will be accepted if it exceeds the minimum length required for precision in describing the experiments and clarity in interpreting them. As a guide, most papers published in the journal are of between six and eight printed pages. A concise well-written paper tends to be published more rapidly. Extensive sets of data can be made available online (see 2.9).

The authors should refer to a current issue of *Clinical Science* to make themselves familiar with the general layout. Manuscripts should, in general, be arranged as follows:

(a) Title page

Title: this should be short, snappy and as informative as possible, since titles of papers are used in indexing and coding for information storage and retrieval. The title should indicate the species in which the observations reported have been made. It should not contain any abbreviations. The numbering of parts in a series of papers is not permitted.

List of authors' names (degrees and appointments are not required).

Laboratory or Institute of origin, with full postal address.

Key words: for indexing the subject of the paper. Supply up to six key words of which at least three do not appear in the title of the paper; they should, if possible, be selected from the current issues of 'Medical Subject Headings' (MeSH) produced by the *Index Medicus*.

Short title: for use as a running heading in the printed text; it should not exceed 45 characters and spaces and should not contain any abbreviations.

Author for correspondence: the name, address and e-mail address of the author to whom queries and requests for offprints should be sent.

(b) Abstract

This should be a brief statement of what was done, what was found and what was concluded, and should rarely exceed 250 words. Abbreviations should be avoided as far as possible and must be defined.

(c) Introduction

This should be comprehensible to the general reader and should contain a clear statement of the reason for doing the work, but should not include either the findings or the conclusions.

(d) Methods

The aim should be to give sufficient information in the text or by reference to permit the work to be repeated without the need to communicate with the author.

(e) Results

This section should not include material appropriate to the Discussion section.

(f) Discussion

This should not contain results and should be pertinent to the data presented.

(g) Acknowledgments

These should be as brief as possible.

(b) References

See 3.18 for the correct format.

(i) Figures and Tables

See 3.10.

2.5 Accelerated Publications

The passage of these papers through the editorial process will be expedited and contributors are encouraged to take advantage of this facility when data are novel and exciting, when rapid publication is of importance and when material can be presented concisely. Authors **must** include in their letter of submission a brief statement explaining the novelty of their work. Accelerated Publications should describe completed work and should not be merely a preliminary communication.

Accelerated Publications should be similar in format to full papers, except that they must occupy not more than four printed pages. This is about 3000 words, with appropriate deductions (at the rate of 1000 words/page) for Figures and Tables.

To achieve rapid publication, authors of accepted Accelerated Publications will not be sent proofs. Rejection of a paper submitted as an Accelerated Publication does not preclude its re-submission as a full paper for publication in *Clinical Science*, in which event the paper would be reviewed and reports provided with the editorial decision in the normal way.

One colour Figure will be published **free of charge** in Accelerated Publications (a saving of £550) provided that it is deemed by the Editor to be necessary to illustrate a scientific point; subsequent Figures in the same paper will cost £300 each.

2.6 Correspondence

Letters containing critical assessments of material published in *Clinical Science*, including Reviews, will be considered for the Correspondence section of the journal. All Letters received are subjected to the journal's peer-review procedure. Letters should be no longer than 750 words, with one Figure or Table and up to six references, or 1000 words maximum without a Figure or Table. Letters relating to material previously published in *Clinical Science* should be submitted within 6 months of the appearance of the article concerned. They will be sent to the authors for comment and both the letter and any reply by the author will be published together. Further correspondence arising therefrom will also be considered for publication. Consideration will also be given to publication of letters on ethical matters.

2.7 Reviews

These are normally commissioned. However, unsolicited reviews will be considered. Prospective authors should first submit a synopsis of their proposed review rather than the full typescript.

2.8 Comments

These are normally commissioned by the Editorial Board.

2.9 Online data sets

It is impractical to publish very large sets of individual values or very large numbers of diagrams, and under these circumstances a summary of the information only should be included in the paper. The information from which the summary was derived should be submitted with the typescript and, if the latter is accepted, the Editor may ask for a copy of the full information and diagrams to be made available as an online data set.

2.10 Proof corrections

These are expensive and corrections of other than printers' errors may have to be charged to the author.

2.11 Offprints

Offprints may be obtained at terms, based upon the cost of production, that will be given with the proofs. All offprints should be ordered when the proofs are returned (except for Accelerated Publications, where they should be ordered when the subedited typescript is returned).

2.12 Availability on Medline and from Adonis

Summaries of papers in *Clinical Science* are available on the Medline system run by the National Library of Medicine, National Institutes of Health, Bethesda, MD, U.S.A.

Full text with illustrations of individual papers can be obtained from Adonis B.V., PO Box 993, 1000AZ Amsterdam, The Netherlands, telephone: +31 20 485 3870, fax: +31 20 485 3871, e-mail: info@adonis.nl

2.13 Copyright policy

Clinical Science is published by Portland Press Ltd on behalf of the Biochemical Society. The Biochemical Society makes a high degree of investment in the scientific publication process. Therefore it is our practice, together with most other Learned Societies, to ask you to assign the copyright of your paper if it is accepted for publication. There are also a number of practical reasons for this: (i) our ownership of copyright will ensure maximum international protection against infringement, libel or plagiarism; (ii) it will enable us to deal efficiently with requests from third parties to reproduce or reprint an article, or part of it.

In assigning your copyright you will not be forfeiting your proprietary rights, including your patent rights. You may also do the following after obtaining our permission (which will not be withheld unreasonably) and provided that the journal is acknowledged as the original source:

- revise, adapt, prepare derivative works, present orally or otherwise make use of the contents of your article;
- make photocopies of all or part of the work provided that such copies are only used for teaching purposes within your institution and that no charge is made for such copies;
- mount the PDF file of the electronic version of your article on your personal Web site, provided that you

include the following statement: "Mounted on the Internet with permission from the Biochemical Society (year of publication)". If you do not know how to do this, contact support@portlandpress.com (for general terms and conditions for use of the journal online, see <http://www.portlandpress.com/pp/journals/licensing.htm>).

Authors who are U.S. Government employees, and whose works are therefore not subject to copyright protection, and employees whose works are subject to Crown copyright, will be asked to sign a non-exclusive licence. Full details will be provided on the Copyright Transfer Agreement that you will be asked to sign after your article has been accepted for publication.

2.14 Portland Press books

Authors, Editors and all contributors to Portland Press journals may order books published by Portland Press, for their personal use, at 25% discount. A complete list of books can be found at <http://www.portlandpress.com>

3 MISCELLANEOUS NOTES

3.1 Abbreviations

Abbreviations should be kept to a minimum compatible with clarity and conciseness; if used they must be defined at the first mention. Numbers, not initials, should be used for patients and subjects.

3.2 Anatomical nomenclature

This should follow the recommendations of the International Anatomical Nomenclature Committee [Nomina Anatomica (1966) 3rd edn., Excerpta Medica Foundation].

3.3 Animals, plants and micro-organisms

The full binomial specific names should be given at first mention for all experimental animals other than common laboratory animals. The strain and, if possible, the source of laboratory animals should be stated. Thereafter in the text, single letter abbreviations may be given for the genus; if two genera with the same initial letter are studied, abbreviations such as *Staph.* and *Strep.* should be used.

3.4 Biochemical nomenclature

As far as possible authors should follow the recommendations of the Nomenclature Committee of IUBMB and IUPAC–IUBMB Joint Commission on Biochemical Nomenclature [see Biochemical Nomenclature and Related Documents (1992) 2nd edn., Portland Press, London]; for corrections see *Eur. J. Biochem.* (1993) 213, 1–3. Further details are given at <http://www.BiochemJ.org>

3.5 Buffers and salts

The acidic and basic components should be given, together with the pH. Alternatively, a reference to the composition of the buffer should be given. Further details are provided at <http://www.BiochemJ.org>

When describing solutions containing organic anions and their parent acids, the salt designator (e.g. lactate, urate, oxalate) should be used in preference to the name of the acid (lactic, uric, oxalic) unless it is certain that virtually all of the acid is in the undissociated form.

The composition of incubation media should be described, or a reference to the composition should be given.

3.6 Computer modelling

Papers concerned primarily with computer modelling techniques are acceptable provided that use of such techniques leads to a clear choice between two or more alternative hypotheses, or to the formulation of a new hypothesis amenable to experimental challenge or verification, or provides some new insight into the behaviour of a particular physiological system. Extensive technical details of hardware and software should not be given.

3.7 Doses

Doses of drugs should be expressed in mass terms, e.g. milligrams (mg) or grams (g), and also (in parentheses) in molar terms, e.g. mmol, mol, where this appears to be relevant. Molecular masses of many drugs may be found in *The Merck Index* (1996) 12th edn., Merck & Co. Inc., Whitehouse Station, NJ.

3.8 Enzymes

Nomenclature should follow that given in *Enzyme Nomenclature* (1992, Academic Press, San Diego); for corrections and additions see *Eur. J. Biochem.* (1994) **223**, 1–5 and *Eur. J. Biochem.* (1995) **232**, 1–6. The Enzyme Commission (EC) number should be quoted at the first mention. Where an enzyme has a commonly used informal name, this may be employed after the first formal identification. A unit of enzyme activity can be expressed as that amount of material which will catalyse transformation of 1 μmol of the substrate/s under defined conditions, including temperature and pH. This gives the unit of the amount of enzyme named the katal (symbol kat). Alternatively, or when the natural substrate has not been fully defined, activity should be expressed in terms of units of activity relative to that of a recognized reference preparation, assayed under identical conditions. Activities of enzymes should normally be expressed as units/ml or units/mg of protein.

3.9 Evaluation of measurement procedures

When a new measuring procedure has been used, or when an established procedure has been applied in a novel fashion, an estimate of the precision of the procedure should be given. This should, as far as possible, indicate what sources of variation have been included in this estimate, e.g. variation of immediate replication, variation within different times of day, or from day to day, etc.

If the precision of measurement varies in proportion to the magnitude of the values obtained, it can

best be expressed as the coefficient of variation; otherwise it should be expressed by an estimate of the (constant) standard error of a single observation, or by estimates of several points within the range of observed values.

When recovery experiments are described, the approximate ratio of the amount added to the amount already present and the stage of the procedure at which the addition was made should be stated.

For methods or assays crucial to the understanding of the paper, information should normally be provided on the validity, accuracy and precision of those methods.

3.10 Figures and Tables

Their number should be kept to a minimum. References to Figures and Tables should be in arabic numerals, e.g. Figure 3, and they should be numbered in order of appearance. In general, the same data should not be presented in both a Figure and a Table.

Figures should be supplied in a form that can be reproduced directly by the printer, together with photocopies. All Figures should have their number and the authors' names written in pencil on the back; the top of the Figure should be indicated with a pencilled arrow. Figures are not routinely relettered. Authors should ensure that nomenclature, abbreviations, etc. used in lettering of Figures correspond to those used in the text. Separate panels within Figures should be clearly marked (a), (b), (c), etc. so that they can be referred to easily in the legend and text. Acceptable symbols for experimental points are \bullet , \blacktriangle , \blacksquare , \circ , \triangle , \square . The symbols \times or $+$ should be avoided. Symbols should not be generated by using tints or a graphics program. The same symbols must not be used for two curves where the points might be confused. For scatter diagrams, solid symbols are preferred. When a particular variable appears in more than one Figure, the same symbol should be used for it throughout, if possible.

Curves should not be drawn beyond the experimental points, nor should axes extend appreciably beyond the data. Only essential information that cannot readily be included in the legend should be written within the Figure.

The use of tints should be avoided; however, if tints are necessary, please ensure that a dot fill of 100 lines per inch or lower is used. Columns in histograms should be differentiated by the use of simple hatching etc.

Figures for half-tone reproduction should be submitted as glossy prints. All lettering should be placed directly on to the Figure, not on a clear film overlay. Where the magnification is to be indicated (e.g. on electron micrographs), this should be done by adding a bar representing a stated length.

Colour figures are accepted when, in the opinion of the Editorial Board, they are essential to illustrate a particular scientific point. Authors will normally be required to pay the full cost of colour separation and printing (at 2004 prices, approximately £550 for the first Figure and £300 for each subsequent Figure in the same paper).

Tables should be typed separately from the text. They

should have a title followed by any legend. Parameters being measured, with units if appropriate, should be clearly indicated in the column headings.

Captions for the Figures, and titles and legends for the Tables, should make them **readily understandable** without reference to the text. Adequate statistical information, including that on regression lines, should be included in Figure legends where appropriate.

Care is needed when using powers in Figure and Table headings to avoid numbers with too many digits (see 3.17).

3.11 Footnotes

These should be avoided as far as possible, but where they are used in Tables they should be identified by the symbols * † ‡ § || ¶, in that order.

3.12 ‘Homology’

The term ‘homologous’ has a precise meaning in biology of ‘having a common evolutionary origin’, but it has often been used in work on protein and nucleic acid sequences to mean simply ‘similar’. A group of experts has urged that the interests of clarity are best served by restricting use to the more precise definition [Reeck, G.R. et al. (1987) *Cell* **50**, 667; Lewin, R. (1987) *Science* **237**, 1570]. *Clinical Science* agrees with these arguments and seeks to preserve the distinction between ‘homologous’ and ‘similar’ in its pages.

3.13 Isotope measurements

Where possible, radioactivity should be expressed in absolute terms; the SI unit for radioactivity is the becquerel (Bq), defined as 1 disintegration/s, but the Curie (Ci; 1 Ci = 3.7×10^{10} Bq) may also be used. Alternatively, radioactivity may be expressed as disintegrations (or counts) per unit of time, e.g. disintegrations/s (d.p.s.) or counts/min (c.p.m.).

3.14 Radionuclide applications in humans

If new or modified radionuclide applications in humans are described, an estimate of the maximal possible radiation dose to the body and critical organs should be given.

For the time being this can continue to be expressed in rems, but with the corresponding value in sieverts (Sv) given in parentheses after it.

3.15 Methods

In describing certain techniques, namely centrifugation (when the conditions are critical), chromatography and electrophoresis, authors should follow the recommendations published by the Biochemical Society (see <http://www.BiochemJ.org>).

3.16 Nomenclature of disease

This should follow the International Classification of Disease (1997, 9th revision. World Health Organization, Geneva) as far as possible. The correct abbreviation for insulin-dependent diabetes is Type I diabetes (*not* IDDM), and for non-insulin-dependent diabetes is Type II diabetes (*not* NIDDM).

3.17 Powers in Tables and Figures

Care is needed where powers are used in Table headings and in Figures to avoid numbers with an inconvenient number of digits. For example: (i) an entry ‘2’ under the heading $10^3 k$ means that the value of k is 0.002; an entry ‘2’ under the heading $10^{-3} k$ means that the value of k is 2000. (ii) A concentration 0.00015 mol/l may be expressed as 0.15 under the heading ‘concn. (mmol/l)’ or as 150 under heading ‘concn. (μ mol/l)’ or as 15 under the heading ‘ $10^5 \times$ concn. (mol/l)’, but not as 15 under the heading ‘concn. (mol/l $\times 10^{-5}$)’.

3.18 References

References in the text should be numbered consecutively in the order in which they are first mentioned, the numerals being given in square brackets, e.g. [22]. References cited in Figure legends or Tables only should be numbered in a sequence determined by the position of the first mention in the text of the Figure or Table. References should be listed in numerical order and the names and initials of all authors of a paper should be given (except where there are seven or more, when only the first three should be listed and et al. added), with the full title of the paper and the source details in full, including the first and last page numbers, e.g.

- 2 Al-Obaidi, M. K., Etherington, P. K., Barron, D. J., Winlove, C. P. and Pepper, J. R. (2000) Myocardial tissue oxygen supply and utilization during coronary artery bypass surgery: evidence of microvascular no-reflow. *Clin. Sci.* **98**, 321–328

Titles of journals should be abbreviated in accordance with the Chemical Abstracts Service Source Index.

When the quotation is from a book, the following format should be used, giving the relevant pages or chapter number:

- 20 Cornish-Bowden, A. (1995) *Fundamentals of Enzyme Kinetics*, Portland Press Ltd., London
- 21 Hainsworth, R. and Drinkhill, M.J. (1995) Regulation of blood volume. In *Cardiovascular Regulation* (Jordan, D. and Marshall, J. M., eds.), pp. 77–91, Portland Press Ltd., London

References to ‘personal communication’ and ‘unpublished work’ should appear in the text only and not in the list of references. The name and initials of the source of information should be given. In the case of quotations from personal communications the authors **must** provide documentary evidence that permission for quotation has been obtained. When the reference is to material that has been accepted for publication but has not yet been published, this should be indicated in the list of references by “in the press” together with the name of the relevant journal and, if possible, the expected date of publication. If such a citation is of major relevance to the manuscript submitted for publication, authors are advised that the editorial process might be expedited by the inclusion of a copy of such work.

References are often the cause of many proof corrections, and inaccuracies hamper inter-journal linking and Medline links in Clinical Science Online. Please check the list carefully before submission.

3.19 Solutions

Concentrations of solutions should be described where possible in molar terms (mol/l and subunits thereof), stating the molecular particle weight if necessary. Values should not be expressed in terms of normality or equivalents. Mass concentration should be expressed as g/l or subunits thereof, for example mg/l or $\mu\text{g/l}$. For solutions of salts, molar concentration is always preferred to avoid ambiguity as to whether anhydrous or hydrated compounds are used. Concentrations of aqueous solutions should be given as mol/l or mol/kg (g/l or g/kg if not expressed in molar terms) rather than % (w/v) or % (w/w). It should always be made clear whether concentrations of compounds in a reaction mixture are final concentrations or the concentrations in solutions added.

3.20 Spectrophotometric data

The general name for the quantity $\log(I_0/I)$ is attenuation, and it reduces to absorbance when there is negligible scattering or reflection. The more general term 'attenuance' should be used when scattering is considerable, e.g. when the quantity is measured to estimate the cell density of a culture. Otherwise the term absorbance should be used; neither should be called extinction or optical density. Symbols used are: *A*, absorbance; *D*, attenuation; *a*, specific absorption coefficient ($\text{litre}\cdot\text{g}^{-1}\cdot\text{cm}^{-1}$) (alternatively use $A_1^{1\%_{\text{cm}}}$); ϵ , molar absorption coefficient (the absorbance of a molar solution in a 1 cm light-path) ($\text{litre}\cdot\text{mol}^{-1}\cdot\text{cm}^{-1}$, *not* $\text{cm}^2\cdot\text{mol}^{-1}$).

3.21 Spelling

Clinical Science uses as standards for spelling the Concise or Shorter Oxford Dictionary of Current English (Clarendon Press, Oxford) and Butterworth's Medical Dictionary (Butterworths, London).

3.22 Statistics

Papers are frequently returned for revision (and their publication consequently delayed) because the authors use inappropriate statistical methods. Two common errors are the use of means, standard deviations and standard errors in the description and interpretation of grossly non-normally distributed data and the application of *t*-tests for the significance of difference between means in similar circumstances, or when the variances of the two groups are non-homogeneous. In some circumstances it may be more appropriate to provide a 'scattergram' than a statistical summary. Authors are recommended to consult the statistical guidelines presented by Altman et al. in 'Statistical guidelines for contributors to medical journals' (1983) *Br. Med. J.* **286**, 1489–1493.

The type of statistical test used should be stated in the Methods section. A reference should be given for the less commonly encountered statistical tests. Degrees of freedom should be indicated where appropriate. Levels of significance are expressed in the form $P < 0.01$.

3.23 Trade names and drug names

The name and address of the supplier of special apparatus and of biochemicals should be given. Registered trademarks should be identified by the symbol $\text{\textcircled{R}}$ where they appear in the text. In the case of drugs, approved names should always be given, with trade names and manufacturers in parentheses. Scientifically precise and unambiguous terms should be used to describe groups of drugs such as general anaesthetics and opioids.

4 UNITS: THE SI SYSTEM

The recommended *Système International* (SI) units [see *Quantities, Units and Symbols in Physical Chemistry* (1998) Blackwell Scientific Publications Ltd., Oxford] are used by *Clinical Science*. **All papers submitted should use these units** except for blood pressure values, which should be expressed in mmHg, and gas partial pressures, where values at the author's discretion may be given in mmHg (with kPa in parentheses) or as kPa (with mmHg in parentheses). Airways pressure should be expressed in kPa. Where molecular mass is known, the amount of a chemical or drug should be expressed in mol or in an appropriate subunit, e.g. mmol. Energy should be expressed in joules (J).

The basic SI units and their symbols are as follows:

Physical quantity	Name	Symbol
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
thermodynamic temperature	kelvin	K
luminous intensity	candela	cd
amounts of substance	mole	mol

The following are examples of derived SI units:

Physical quantity	Name	Symbol	Definition
energy	joule	J	$\text{kg}\cdot\text{m}^2\cdot\text{s}^{-2}$
force	newton	N	$\text{kg}\cdot\text{m}\cdot\text{s}^{-2} = \text{J}\cdot\text{m}^{-1}$
power	watt	W	$\text{kg}\cdot\text{m}^2\cdot\text{s}^{-3} = \text{J}\cdot\text{s}^{-1}$
pressure	pascal	Pa	$\text{kg}\cdot\text{m}^{-1}\cdot\text{s}^{-2} = \text{N}\cdot\text{m}^{-2}$
electric charge	coulomb	C	$\text{A}\cdot\text{s}$
electric potential difference	volt	V	$\text{kg}\cdot\text{m}^2\cdot\text{s}^{-3}\cdot\text{A}^{-1} = \text{J}\cdot\text{A}^{-1}\cdot\text{s}^{-1}$
electric resistance	ohm	Ω	$\text{kg}\cdot\text{m}^2\cdot\text{s}^{-3}\cdot\text{A}^{-2} = \text{V}\cdot\text{A}^{-1}$
electric conductance	siemens	S	$\text{kg}^{-1}\cdot\text{m}^{-2}\cdot\text{s}^3\cdot\text{A}^2 = \Omega^{-1}$
electric capacitance	farad	F	$\text{A}^2\cdot\text{s}^4\cdot\text{kg}^{-1}\cdot\text{m}^{-2} = \text{A}\cdot\text{s}\cdot\text{V}^{-1}$
frequency	hertz	Hz	s^{-1}
volume	litre	l	10^{-3} m^3

The word 'litre' has been accepted as a special name for cubic decimetre (1 litre = 1 dm³).

Both the basic and derived SI units, including the symbols of derived units that have special names, may be preceded by prefixes to indicate multiples and sub-multiples. The prefixes should be as follows:

Multiple	Prefix	Symbol	Multiple	Prefix	Symbol
10 ⁶	mega	M	10 ⁻³	milli	m
10 ³	kilo	k	10 ⁻⁶	micro	μ
10 ²	hecto	h*	10 ⁻⁹	nano	n
10	deka	da	10 ⁻¹²	pico	p
10 ⁻¹	deci	d*	10 ⁻¹⁵	femto	f
10 ⁻²	centi	c*			

*To be avoided where possible (except for cm).

Compound prefixes should not be used, e.g. 10⁻⁹ m should be represented by 1 nm, not 1 mμm.

Notes

- (i) Full stops are not used after symbols.
- (ii) Minutes (min), hours (h), days and years will continue to be used in addition to the SI unit of time [the second (s)].
- (iii) The solidus may be used in a unit as long as it does not have to be employed more than once, e.g. mmol/l is acceptable, but ml/min/kg is not, and should be replaced by ml·min⁻¹·kg⁻¹.