

**PUBLISHED BY
THE MEDICAL RESEARCH SOCIETY AND THE BIOCHEMICAL SOCIETY**

**© The Medical Research Society and the Biochemical Society 1981
ISSN 0143-5221**

**Printed in Great Britain by Spottiswoode Ballantyne Ltd.
Colchester and London**

CLINICAL SCIENCE

Guidance for Authors

CONTENTS

	<i>page</i>
1. Policy of the Journal	
1.1. Scope	i
1.2. The Editorial Board	i
1.3. The editorial process	i
1.4. Ethics of investigations on human subjects	ii
1.5. Originality of papers	ii
2. Submission of Manuscripts: General Information and Format	
2.1. General	ii
2.2. Full papers	ii
2.3. Short Communications	iii
2.4. Correspondence	iii
2.5. Arrangements for large amounts of information	iii
2.6. Proof corrections	iii
2.7. Offprints.	iii
2.8. Availability on MEDLINE	iii
3. Miscellaneous Notes	
3.1. Abbreviations	iv
3.2. Anatomical nomenclature	iv
3.3. Animals, plants and micro-organisms	iv
3.4. Buffers and salts	iv
3.5. Computer modelling	vi
3.6. Doses	iv
3.7. Enzymes	iv
3.8. Evaluation of measurement procedures	iv
3.9. Figures and Tables	iv
3.10. Footnotes	v
3.11. Isotope measurements	v
3.12. Radionuclide applications in man	v
3.13. Methods	v
3.14. Nomenclature of disease	v
3.15. Powers in Tables and Figures	v
3.16. References	v
3.17. Solutions,	vi
3.18. Spectrophotometric data	vi
3.19. Spelling	vi
3.20. Statistics	vi
3.21. Trade names	vi
4. Units: The SI System	vi
5. Abbreviations, Conventions etc.	vii

1. POLICY OF THE JOURNAL

1.1. *Scope*

Clinical Science publishes papers in the field of clinical investigation, provided they are of a suitable standard and contribute to the advancement of knowledge in this field. The term 'clinical investigation' is used in its broad sense to include studies in animals and the whole range of biochemical, physiological, immunological and other approaches that may have relevance to disease in man. Studies which are confined to normal subjects, or animals, or are purely methodological in nature may be acceptable. The material presented should permit conclusions to be drawn and should not be only of a preliminary nature. The journal publishes four types of manuscript, namely invited Editorial Reviews, Full Papers, Short Communications and Correspondence. In addition, *Clinical Science* publishes abstracts of the proceedings of the Medical Research Society and also that Society's Annual Guest Lecture.

1.2. *The Editorial Board*

The Board comprises Editors for the Medical Research Society and the Biochemical Society and a Chairman and Deputy Chairman who are drawn alternately from the two Societies. Members of the Board retire after a maximum of 5 years; the Chairman serves in his capacity for 2 years. The membership of the Board is designed to cover as wide a range of interests as possible.

The main function of the Board is to decide on the acceptability of submitted papers, but it also deals with general matters of editorial policy. Financial policy is dealt with separately by the Committee of Management.

1.3. *The editorial process*

A submitted paper is first read by the Chairman of the Editorial Board who then sends it to an Editor. The latter considers the paper in detail and sends it to one or more referees (who remain anonymous) from outside the membership of the Board. The Editor returns it with his recommendation to the Chairman who then writes formally to

the authors. The ultimate responsibility of acceptance for publication lies with the Chairman. If the Chairman is for any reason unavailable, the Deputy Chairman assumes this function.

1.4. *Ethics of investigations on human subjects*

Authors must state in the text of their paper the manner in which they have complied, where necessary, with the recommendations on human investigations published in the Medical Research Council report of 1962/63 [*British Medical Journal* (1964) ii, 178–180]. Consent **must** be obtained from each patient or subject after full explanation of the purpose, nature and risks of all procedures used and the fact that such consent has been given should be recorded in the paper. Papers should also state that the Ethical Committee of the Institution in which the work was performed has given approval to the protocol. The Editorial Board will not accept papers the ethical aspects of which are, in the Board's opinion, open to doubt.

1.5. *Originality of papers*

Submission of a paper to the Editorial Board is taken to imply that it reports unpublished work, that it is not under consideration for publication elsewhere and that, if accepted for publication by *Clinical Science*, it will not be published elsewhere in the same form, either in English or in any other language, without the consent of the Editorial Board. This does not usually apply to previous publication of oral communications in brief abstract form. In such cases authors should enclose copies of the abstracts. When a paper has been accepted for publication the author, or in the case of multiple authorship the author with whom correspondence has taken place, will be asked to sign a statement vesting the copyright in the Editorial Board. Requests for consent for reproduction of material published in *Clinical Science* should be addressed to the Editorial Manager.

2. SUBMISSION OF MANUSCRIPTS: GENERAL INFORMATION AND FORMAT

2.1. *General*

Papers submitted for publication should be sent to the Editorial Manager, *Clinical Science*, 7 Warwick Court, London WC1R 5DP.

The submission should contain four copies (of which three may be photocopies) of the typescript,

Tables, Figures etc. The authors should retain one copy of the paper. The Editorial Board does not accept responsibility for damage or loss of papers submitted, although great care is taken to ensure safety and confidentiality of the typescript during the editorial process. In the case of multiple authorship, the covering letter should indicate that the approval of all co-authors has been obtained.

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, it often speeds up assessment if reprints are enclosed with the typescript. 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. For Short Communications the published date will always be that of receipt of the final version. 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.

2.2. *Full papers*

The authors should refer to a current issue of *Clinical Science* to make themselves familiar with the general layout. Concise presentation is very important for rising costs are a severe constraint on space. **The length of manuscript and the number of Figures and Tables must be kept to a minimum.** Extensive Tables of data can be deposited with the Royal Society of Medicine (see 2.5). *Guidance for Authors* is usually published in the January issue of the journal, and revised periodically.

Typescripts should be, in general, arranged as follows:

(a) *Title page.* Title: this should be as informative as possible, since titles of papers are being increasingly used in indexing and coding for information storage and retrieval. The title should indicate the species in which the observations reported have been made. 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.

Key words: for indexing the subject 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 forty-five characters and spaces.

Author for correspondence: the name and address of the author to whom queries and requests for reprints should be sent.

(b) *Summary*. This should be a brief statement arranged in **numbered paragraphs** of what was done, what was found and what was concluded and should rarely exceed 250 words. Contributors from non-English speaking countries are invited to include a translation of the summary in their own language. Abbreviations should be avoided as far as possible and must be defined. Statistical and methodological details including exact doses should also be avoided unless they are essential to the understanding of the summary.

(c) *Introduction*. This 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.

(h) *References*. See p. v for the correct format.

(i) *Figures and Tables*. See p. iv.

2.3. Short Communications

The Short Communication should describe completed work, and should not be merely a preliminary communication. The format of Short Communications should be similar to that of Full Papers, but should not exceed 1200 words of text. **One Figure or Table** is allowed, but if neither is included the text may be expanded to 1400 words. The passage of Short Communications through the editorial process can frequently be expedited and contributors are encouraged to take advantage of these facilities when rapid publication is of importance and the material can be presented concisely.

The paper should appear in print within 3 months of acceptance. When submitting Short Communications, authors should make it quite clear that the work is intended to be treated as a Short Communication.

2.4. Correspondence

Letters containing critical assessments of material published in *Clinical Science*, including Editorial Reviews, will be considered for the Correspondence section of the journal. Such letters should be sent to the Editorial Manager, *Clinical Science*, 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.

2.5. Arrangements for large amounts of information

It is impracticable 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 Editors may ask for a copy of the full information and diagrams to be deposited with the Librarian, the Royal Society of Medicine, 1 Wimpole Street, London W1M 8AE, who will issue copies on request. Experience has shown that such requests are frequently received.

2.6. Proof corrections

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

2.7. Offprints

Fifty offprints are supplied free and additional copies 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.

2.8. Availability on MEDLINE

Summaries of papers in *Clinical Science* are available on-line on teleprinters participating in the MEDLINE system run by the National Library of Medicine, National Institutes of Health, Bethesda, Maryland, U.S.A.

3. MISCELLANEOUS NOTES

3.1. Abbreviations

Abbreviations should be avoided; if used they must be defined at the first mention; new abbreviations should be coined only for unwieldy names which occur frequently. Abbreviations should not appear in the title nor, if possible, in the Summary. A list of accepted abbreviations is on p. vi. 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 (1966) *Nomina Anatomica*, 3rd edn, Excerpta Medica Foundation, Amsterdam.

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. 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 in the *Biochemical Journal* (1978) **169**, 9.

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.

3.5. 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.

3.6. 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 weights of many drugs may be found in *The Merck Index*, 8th edn, Merck and Co. Inc., N.J., U.S.A.

3.7. Enzymes

Nomenclature should follow that given in *Enzyme Nomenclature* (1978), Academic Press, London and New York, and 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 should preferably be expressed as that amount of material which will catalyse transformation of 1 μ mol of the substrate/min under defined conditions, including temperature and pH. 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.

3.8. 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 at 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.

3.9. Figures and Tables

These are expensive to print and their number should be kept to a minimum. Their appropriate position in the paper should be indicated in the margin of the text. References to Figures and

Tables should be in Arabic numerals, e.g. Fig. 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, with captions attached, should be supplied as original drawings or matt photographs 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. Acceptable symbols for experimental points are ●, ▲, ■, ○, △, □. The symbols × or + must be avoided. 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.

Figures for half-tone reproduction should be submitted as glossy prints. They are particularly expensive to print and their use should be avoided as far as possible.

Tables should be typed separately from the text. They should have an underlined title followed by any legend.

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 captions where appropriate.

3.10. 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.

3.11. Isotope measurements

The information given should include (a) conditions of radioactivity counting, e.g. infinitely thick, infinitely thin; (b) the nature of the phosphor used in liquid-scintillation counting; (c) details of corrections made to the observed count rate, e.g. for 'quenching' or 'cross-over'; (d) standard deviation of the results or a statement of the minimum total counts above background collected and the background value.

In general the specific radioactivity of the starting materials should be given, preferably in

terms of radioactivity per unit weight or, for stable isotopes, as atoms % excess.

Pending the general introduction of SI units radioactivity should continue to be expressed in terms of the curie (Ci) followed by the corresponding figure in terms of the becquerel (Bq: disintegrations/s), in parentheses, and suitably rounded.

3.12. Radionuclide applications in man

If new or modified radionuclide applications in man 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 figure in sieverts (Sv) given in parentheses after it.

3.13. 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 (currently, *Biochemical Journal* (1981) 193, 1–21).

3.14. Nomenclature of disease

This should follow the *International Classification of Disease* (8th revision, World Health Organization, Geneva, 1969) as far as possible.

3.15. 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 10^3k 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 the 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 $\times 10^{-5}$)'.

3.16. References

The numerical citation system is now used: references in the text are numbered consecutively in the order in which they are first mentioned, the numerals being given in 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 of all authors of a paper should be given, with the full title of the paper and the source details in full including the first and last page numbers, e.g.

- [2] CLARK, T.J.H., FREEDMAN, S., CAMPBELL, E.J.M. & WINN, B.R. (1969) The ventilatory capacity of patients with chronic airways obstruction. *Clinical Science*, **36**, 307–316.

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

- [20] MOLLISON, P.L. (1967) *Blood Transfusion in Clinical Medicine*, 4th edn, p. 50. Blackwell Scientific Publications, Oxford.
- [22] REID, L. (1968) In: *The Lung*, p. 87. Ed. Liebow, A.A. & Smith, D.E. Williams and Wilkins, Baltimore.

References to 'personal communications' 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. 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 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. In the case of quotations from personal communications the authors should state in the covering letter that permission for quotation has been obtained.

3.17. Solutions

Concentration 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 components in a reaction mixture are final concentrations or the concentrations in solutions added.

3.18. Spectrophotometric data

The term 'absorbance' [$\log(I_0/I)$] should be used rather than 'optical density' or 'extinction'. The

solvent, if other than water, should be specified. Symbols used are: A , absorbance; a , specific absorption coefficient ($\text{litre g}^{-1} \text{cm}^{-1}$) (alternatively use $A_{1\text{cm}}^{1\%}$); ϵ , molar absorption coefficient (the absorbance of a molar solution in a 1 cm light-path) ($\text{litre mol}^{-1} \text{cm}^{-1}$, not $\text{cm}^2 \text{mol}^{-1}$).

3.19. 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).

3.20. 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.

A reference should be given for all methods used to assess the probability of a result being due to chance. The format for expressing mean values and standard deviations or standard errors of the mean is, for example: mean cardiac output 10.4 l/min (SD 1.2; $n = 11$). Degrees of freedom should be indicated where appropriate. Levels of significance are expressed in the form $P < 0.01$.

3.21. Trade names

The name and address of the supplier of special apparatus and of biochemicals should be given. In the case of drugs, approved names should always be given with trade names and manufacturers in parentheses.

4. UNITS: THE SI SYSTEM

The recommended *Système International* (SI) units [see *Quantities, Units and Symbols*, 2nd edn (1975) The Royal Society, London] are used by *Clinical Science*. All papers submitted should use these units except for blood pressure values, which should be expressed in mmHg, or gas tensions, where values at the author's discretion may be given as mmHg (with kPa in parentheses) or as kPa (with mmHg in parentheses) in the text and either as mmHg or as kPa in Figures, which (if practicable) should have scales in both units. Airways pressure should be expressed in kPa. Where molecular weight 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	$\text{kg m}^2 \text{s}^{-2}$
force	newton	N	$\text{kg m s}^{-2} = \text{J m}^{-1}$
power	watt	W	$\text{kg m}^2 \text{s}^{-3} = \text{J s}^{-1}$
pressure	pascal	Pa	$\text{kg m}^{-1} \text{s}^{-2} = \text{N m}^{-2}$
electric charge	coulomb	C	A s
electric potential difference	volt	V	$\text{kg m}^2 \text{s}^{-2} \text{A}^{-1} = \text{J A}^{-1} \text{s}^{-1}$
electric resistance	ohm	Ω	$\text{kg m}^2 \text{s}^{-3} \text{A}^{-2} = \text{V A}^{-1}$
electric conductance	siemens	S	$\text{kg}^{-1} \text{m}^{-2} \text{s}^3 \text{A}^2 = \Omega^{-1}$
electric capacitance	farad	F	$\text{A}^2 \text{s}^3 \text{kg}^{-1} \text{m}^{-2} = \text{A s V}^{-1}$
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 submultiples. The prefixes should be as follows:

	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 μm .

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 $\text{ml min}^{-1} \text{kg}^{-1}$.

5. ABBREVIATIONS, CONVENTIONS, DEFINITIONS, SYMBOLS AND SPECIAL COMMENTS

As well as standard symbols and abbreviations that have been accepted by international bodies, and which can be used without definition, this list shows selected abbreviations in the form of groups of capital letters (e.g. ALA, ECF, MCHC) which when used must be defined in the text as indicated on p. iv. The standard abbreviations for amino acids are only for use in Figures and Tables or for peptide sequences.

absorbance	A
acceleration due to gravity	g
adenosine 3':5'-cyclic monophosphate	cyclic AMP
adenosine 5'-phosphate	AMP
adenosine 5'-pyrophosphate	ADP
adenosine 5'-triphosphate	ATP
adenosine triphosphatase	ATPase
adrenocorticotrophic hormone	ACTH
adrenoceptor (see also blocking agents)	
alanine	Ala
alternating current	a.c.
alveolar minute ventilation	\dot{V}_A
alveolar to arterial oxygen tension difference	$(P_{A,O_2} - P_{a,O_2})$
ampere	A
aminolaevulinic acid	ALA
angiotensin	ANG; reference amino acid abbreviations are used as prefix within brackets: e.g. [Sar ¹ ,Val ² ,Ala ⁸]ANG
Ångstrom (Å)	not used; express in nm (1 Ångstrom = 10 ⁻¹ nm)
antidiuretic hormone	ADH (when referring to the physiological secretion)
arginine	Arg
arteriovenous	a-v: permitted in Figures and Tables
asparagine	Asn
aspartic acid	Asp
atmosphere (unit of pressure)	not used; express in kPa (1 atmosphere = 101.325 kPa)
atomic weight	at. wt.
becquerel	Bq (1 d.p.s.)
blocking agents	e.g. β -adrenoceptor antagonists preferred
blood pressure	express in mmHg
blood urea nitrogen	not used; recalculate as urea, express in mmol/l
blood volume	BV
body temperature and pressure, saturated	BTPS

British Pharmacopoeia	write in full and give edition	electromotive force	e.m.f.
calculated	calc. (in Tables only)	electron spin resonance	e.s.r.
'Calorie' (= 1000 cal)	<i>not used</i> ; recalculate as kilojoules (1 'Calorie' = 4.184 kJ)	electronvolt	eV (for radiation energies)
carbon dioxide output (in respiratory physiology)	\dot{V}_{CO_2} ; express in ml STP/min	equation	eqn.
cardiac frequency	f_c ; in beats/min	equivalents (amount of a chemical)	<i>not used</i> ; recalculate in molar terms
cardiac output	express in l/min	erythrocyte count	express as 10^{12} cells/l
centimetre	cm	erythrocyte sedimentation rate	ESR
clearance of x	C_x	ethanol, ethanolic	<i>not</i> ethyl alcohol or alcoholic
coenzyme A and its acyl derivatives	CoA and acyl-CoA	ethylenediaminetetra-acetate exchangeable	EDTA Na _e , K _e etc., for total exchangeable sodium, potassium etc.
compare	cf.	Experiment (with reference numeral)	Expt.; plural, Expts.
complement fractions	C1–C9	expired minute ventilation	\dot{V}_E <i>use</i> absorbance
compliance (respiratory physiology)	C; express in 1 kPa^{-1}	extinction	ECF
concentrated	conc.	extracellular fluid	ECFV
concentration	concn.; may be denoted []; e.g. plasma [HCO_3^-]	extracellular fluid volume	E_x
conductance (respiratory physiology)	G; express in $1 \text{ s}^{-1} \text{ kPa}^{-1}$	extraction ratio of x (renal)	Fig.; plural, Figs.
correlation coefficient	r; may be used without definition	Figure (with reference numeral)	F_x
counts/min, counts/s	c.p.m., c.p.s.	filtered load of x (renal)	FSH
cubic centimetres	<i>use</i> ml	follicle-stimulating hormone	FEV _{1.0}
curie	Ci (1 Ci = 3.7×10^{10} d.p.s.)	forced expiratory volume in 1.0 s	F
cycle/s	Hz	fractional concentration in dry gas	k (as in $A = A_0 e^{-kt}$)
cysteine	Cys	fractional disappearance rate	f_R ; in breaths/min
dates	e.g. 11 August 1970	frequency of respiration	FRC
dead-space minute ventilation	\dot{V}_D	functional residual capacity	g.l.c.
dead-space volume	V_D	gas-liquid chromatography	T; in $\text{mmol min}^{-1} \text{ kPa}^{-1}$
degrees, Celsius or centigrade	$^\circ\text{C}$	gas transfer factor	GFR
deoxy (prefix)	<i>not</i> desoxy	glomerular filtration rate	Glu
deoxycorticosterone	DOC	glutamic acid	Gln
deoxycorticosterone acetate	DOCA	glutamine	GSH (reduced); GSSG (oxidized)
deoxyribonucleic acid	DNA	glutathione	Gly
dialysate	diffusate preferred; 'dialysate' should be clearly defined	glycine	g
diethylaminoethylcellulose	DEAE-cellulose	gram(me)	g
differential of x with respect to time	\dot{x} (= dx/dt)	gravitational field, unit of (9.81 m s^{-2})	g
1,25-dihydroxycholecalciferol	1,25-(OH) ₂ D ₃	growth hormone	GH; if human, HGH
dilute	dil.	guery	Gy (100 rads)
2,3-diphosphoglycerate	2,3-DPG	haematocrit	<i>not</i> allowed; <i>use</i> packed cell volume (PCV)
direct current	d.c.	haemoglobin	Hb; express in g/dl
disintegrations/min	d.p.m.	half-life	$t_{1/2}$
disintegrations/s	d.p.s.	hertz (s^{-1})	Hz
dissociation constant		histidine	His
acidic	K_a	hour	h
basic	K_b	human chorionic gonadotropin	HCG
apparent	e.g. K'_a	human placental lactogen	HPL
minus log of	pK	hydrocortisone	<i>use</i> cortisol
doses	avoid Latin designations such as b.d. and t.i.d.	hydrogen ion activity minus log of	aH; express in nmol/l
dyne	dyn; used for vascular resistance	25-hydroxycholecalciferol	pH
elastance	E; express in Pa m^{-3}	hydroxyproline	25-(OH)D ₃
electrocardiogram	ECG	immunoglobulins	Hyp
electroencephalogram	EEG		IgA, IgD, IgE, IgG, IgM

injection routes:	use abbreviations only in Figures	millimetre of mercury	mmHg; for blood pressure and, at authors' discretion, for gas tensions: see p. vi (1 mmHg = 0.133 kPa)
intra-arterial	i.a.		
intramuscular	i.m.		
intraperitoneal	i.p.		
intravenous	i.v.	millimolar (concentration)	mmol/l; <i>not</i> mM
subcutaneous	s.c.	millimole	mmol
international unit	i.u. (definition and reference should be given for uncommon or ambiguous applications, e.g. enzymes)	minimum	min.
		minute (60 s)	min
		molal	mol/kg
		molar (concentration)	mol/l; <i>not</i> M
		molar absorption coefficient	ϵ (the absorbance of a molar solution in a 1 cm light-path)
intracellular fluid	ICF	mole	mol
intracellular fluid volume	ICFV	molecular weight	mol. wt.
ionic strength	<i>I</i>	nicotinamide-adenine dinucleotide	NAD if oxidation state not indicated NAD ⁺ if oxidized NADH if reduced
isoleucine	Ile	nicotinamide-adenine dinucleotide phosphate	NADP if oxidation state not indicated NADP ⁺ if oxidized NADPH if reduced
isotonic	<i>not used</i> ; specify composition of fluid, e.g. NaCl, 150 mmol/l	normal	should not be used to denote the concentration or osmolarity of a solution
isotopically labelled compounds	e.g. [U- ¹⁴ C]glucose, [1- ¹⁴ C]glucose, sodium [1- ¹⁴ C]-acetate; use ¹³¹ I-labelled albumin, <i>not</i> [¹³¹ I]albumin for simple molecules: ¹⁴ CO ₂ , ³ H ₂ O	normal temperature and pressure	<i>use</i> standard temperature and pressure (STP)
joule	J	nuclear magnetic resonance number (in enumerations)	n.m.r. no. (in Tables only)
kilogram(me)	kg	observed	obs. (in Tables only)
kilopond	<i>not used</i> ; 1 kilopond = 9.8067 N	ohm	Ω
lactate dehydrogenase	LDH	ornithine	Orn
leucine	Leu	ortho-	<i>o</i> -
leucocyte count	express as 10 ⁹ cells/l	orthophosphate (inorganic)	P ₁
lipoproteins (serum)		osmolality	express in mol (or mmol)/kg
high density	HDL	oxygen uptake per minute (in respiratory physiology)	$\dot{V}O_2$; express in ml STP/min
low density	LDL	packed cell volume	PCV
very low density	VLDL	page, pages	p., pp.
litre	1 (write in full if confusion with the numeral 1 is possible)	para-	<i>p</i> -
logarithm (base 10)	log	para-aminohippurate	PAH
logarithm (base e)	ln	partial pressure	<i>P</i> ; express in either kPa or mmHg (see p. vi)
luteinizing hormone	LH		PA, O ₂
lysine	Lys	e.g. alveolar, of O ₂	Pa, CO ₂
maximum	max.	arterial, of CO ₂	PC, O ₂
mean corpuscular haemoglobin	MCH; express in pg	capillary, of O ₂	P \bar{V} , CO ₂
mean corpuscular haemoglobin concentration	MCHC; express in g/dl	mixed venous, of CO ₂	Pa
mean corpuscular volume	MCV; express in fl (1 $\mu\text{m}^3 = 1 \text{ fl}$)	pascal	/
median lethal dose	LD ₅₀	per	%
meta-	<i>m</i> -	per cent	
melting point	m.p.	petroleum ether	<i>not used</i> ; <i>use</i> light petroleum and give boiling range
methanol, methanolic	<i>not</i> methyl alcohol	phenylalanine	Phe
methionine	Met	plasma renin activity	express as pmol of angiotensin I h ⁻¹ ml ⁻¹
metre	m		
Michaelis constant	K _m	plasma volume	PV
micromole	μmol	poise	1 poise = 10 ⁻¹ N s m ⁻²
micron (10 ⁻⁶ m)	μm ; <i>not</i> μ		
milliequivalent	<i>not used</i> ; give amount in mmol		
millilitre	ml		

potential difference	p.d.	specific conductance of airways	sGaw; express in $\text{s}^{-1} \text{kPa}^{-1}$
power output	W (1 W = 0.1635 kpm/min)	standard deviation	SD } may be used
precipitate	ppt.	standard error of the mean	SEM } without definition
pressure	P; express in kPa (except for blood pressures and gas tensions: see p. 6); 1 kPa = 7.5 mm Hg	standard temperature and pressure	STP
probability of an event being due to chance alone	P	steroid nomenclature	see <i>Biochemical Journal</i> (1969) 113, 5–28; (1972) 127, 613–617
proline	Pro	sulphydryl	use thiol or SH
protein-bound iodine (plasma)	PBI	sum	Σ
pulmonary capillary blood flow	\dot{Q}_c	Svedberg unit	S
pyrophosphate (inorganic)	PPi	temperature (absolute) (empirical)	T
rad (radiation dose; 10^{-5} J absorbed/g of material)	not abbreviated (100 rads = 1 Gy)	temperature, thermodynamic	t
red blood cell	use erythrocyte; express counts as 10^{12} cells/l	thin-layer chromatography	$^{\circ}\text{K}$
red cell mass	RCM	threonine	t.l.c.
relative band speed (partition chromatography)	R_F	thyrotrophic hormone	Thr
rem	100 ergs/g \times quality factor	thyrotrophin-releasing hormone	TSH
renin	see plasma renin activity	tidal volume	TRH
residual volume	RV	time (symbol)	V_T
resistance (rheological)	R; express in $\text{kPa l}^{-1} \text{s}$	time of day	t
respiratory exchange ratio (pulmonary)	R	torr	e.g. 18.15 hours
respiratory quotient (metabolic)	RQ	total lung capacity	not used; use kPa (1 torr = 0.133 kPa)
revolutions	rev.	tryptophan	TLC
rev./min	not r.p.m.; use g if possible (see p. viii)	tubular maximal reabsorptive capacity for x	Trp
ribonucleic acid	RNA	tyrosine	$T_{m,x}$
röntgen	R	ultraviolet	Tyr
saline	define at first mention [e.g. NaCl solution (154 mmol/l)]	urinary concentration of x	u.v.
saturation	S, e.g. Sa_2O_2 for arterial oxygen saturation (see partial pressure for other analogous abbreviations)	valency	U_x
second (time)	s	valine	e.g. Fe^{2+} , not Fe^{++}
serine	Ser	variance ratio	Val
sievert	Sv (1 J/kg \times quality factor)	vascular resistance	F
solvent systems	e.g. butanol/acetic acid/water (4:1:1, by vol.), butanol/acetic acid (4:1, v/v)	velocity	express in $\text{kPa l}^{-1} \text{s}$ (with value in dyn s cm^{-5} in parentheses); primary values of differential vascular pressure (mmHg) and flow (l/min) should always also be given in Tables or text as appropriate
species	sp., plural spp.	venous admixture	v ; express as m s^{-1}
specific activity	sp. act. Confusion must be avoided between e.g. specific radioactivity and the specific activity of an enzyme	veronal	\dot{Q}_{va} used only for buffer mixtures; otherwise use 5,5'-diethylbarbituric acid
		viscosity, dynamic	η
		viscosity, kinematic	ν
		vital capacity	VC
		volt	V
		volume of blood (in cardio-respiratory physiology)	\dot{Q} ; use \dot{Q} for blood flow rate
		watt	W
		wavelength	λ
		weight	wt.
		white blood cell	use leucocyte: express counts as 10^9 cells/l

Volume 59

AUTHOR INDEX

- ALBERTI, K.G.M.M. 155-161, 191-198
 AMIS, T.C. 485-492
 ANTHONISEN, N.R. 115-121
 ARNER, P. 199-201
 BÄCKER, A. 67-70
 BACON, S. 509-511
 BALASUBRAMANIAN, V. 497-500
 BARRAGRY, J.M. 293-296
 BARTTER, F.C. 397-400
 BARTON, M. 479-483
 BARTON, R.N. 19-27
 BEER, M.S. 293-296
 BELLINGHAM, A.J. 163-168
 BEST, L.C. 131-135
 BIRGEGÅRD, G. 385-387
 BLACKBURN, A.M. 237-243
 BLOOM, S.R. 1-6, 237-243, 457-462, 505-508
 BLUME, R. 373-380
 BOUCHER, B.J. 293-296
 BRADA, M. 163-168
 BRYANT, M.G. 1-6, 457-462, 505-508
 BURSTON, D. 285-287
 CALDWELL, P.R.B. 337-345
 CAMNER, P. 79-84
 CAMPBELL, E.J.M. 493-495
 CARTER, A. 509-511
 CASHMAN, P.M.M. 497-500
 CASPARY, W.F. 373-380
 CERULLI, N. 143-145
 CHAN, W. 443-449
 CHANARIN, I. 151-154
 CHASE, R.A. 191-198
 CHOW, F.P.R. 369-372
 CHRISTENSEN, N.J. 251-256
 CHRISTOFIDES, N.D. 237-243, 505-508
 CIOFETTA, G. 485-492
 CLARK, W.F. 147-150
 CLARKE, H. 115-121
 CLEMENS, T.L. 257-263
 COHEN, R.D. 293-296
 COLTART, D.J. 207-209
 COOPER, M.J. 123-129
 COX, A.G. 505-508
 CRILLY, R.G. 137-142
 DANDONA, P. 369-372
 DAVIES, P. 191-198
 DAWSON, J. 1-6, 457-462, 505-508
 DEHENEFJE, J. 435-441
 DE JONG, P.E. 245-250
 DE JONG-VAN DEN BERG, L.T.W. 245-250
 DENNIS, S.C. 207-209
 DE WARDENER, H.E. 411-421
 DHINGRA, S. 115-121
 DONKER, A.J.M. 245-250
 DOWLING, R.H. 317-327, 329-336
 DRIEDGER, A.A. 147-150
 DUBOWITZ, V. 7-12
 DUFFY, B.J. 13-18
 DURRINGTON, P.N. 71-74
 DÜSING, R. 67-70, 75-77
 EBEID, F.H. 237-243
 EBRINGER, R.W. 405-410
 EDEN, J. 67-70
 EDMONDS, C.J. 29-39
 EDWARDS, R.H.T. 463-468
 ELIA, M. 275-283, 509-511
 ELSASSER, U. 393-395
 ELSENHANS, B. 373-380
 EPSTEIN, M. 55-62
 ERIKSSON, S. 173-181
 ESPINER, E.A. 443-449
 FARRELL, R. 275-283
 FLORAS, J.S. 347-352
 FORSLING, M.L. 501-503
 FRAHER, L.J. 257-263
 FRANKEL, H.L. 251-256
 FRAYN, K.N. 19-27
 FYHRQUIST, F. 381-383
 GALLERY, E.D.M. 49-53
 GHATEL, M.A. 237-243
 GIULIANI, A. 143-145
 GLÄNZER, K. 67-70, 75-77
 GORDON, D. 231-236
 GRIFFITHS, J.R. 225-230
 GROSS, E. 211-214
 GÜLLNER, H.-G. 397-400
 GYÖRY, A.Z. 49-53
 HABER, E. 55-62
 HEARSE, D.J. 207-209
 HEATH, D.F. 19-27
 HEGENFELDT, L. 173-181
 HEIGENHAUSER, G.J.F. 469-478
 HEINRICH, R. 75-77
 HESP, R. 393-395
 HILTON, P.J. 353-357
 HOLBROOK, I.B. 211-214
 HOLGATE, S.T. 155-161
 HORSMAN, A. 137-142
 HOULT, J.R.S. 63-66
 HUGHES, C.A. 317-327, 329-336
 HUGHES, J.M.B. 485-492
 HUTTON, R.A. 369-372
 ILES, R.A. 225-230
 ILIC, V. 275-283
 IKRAM, H. 443-449
 IRVING, M.H. 211-214
 JAMES, O. 479-483
 JENKINS, W. 7-12
 JOHNSON, V.E. 353-357
 JONES, J.V. 347-352
 JONES, N.L. 85-91, 469-478
 JONES, P.B.B. 131-135
 JONES, R.B. 353-357
 KAFKA, M.S. 397-400
 KARPATI, L. 369-372
 KELMAN, A.W. 311-315
 KERMODE, J.C. 29-39
 KEYES, S.J. 93-103
 KILLIAN, K.J. 493-495
 KIPNOWSKI, J. 67-70, 75-77
 KLENERMAN, L. 393-395
 KNOCK, C.A. 411-421, 423-433
 KRAMER, H.J. 67-70, 75-77
 KRÜCK, F. 67-70
 KUKSIS, A. 469-478
 LANIER, B.R. 289-292
 LEATHERDALE, B.A. 191-198
 LEBOWITZ, J. 289-292
 LEE, G. DE J. 105-113
 LEIJD, B. 203-206

- LEVICK, J.R. 41–48
 LEWIS, B. 359–367
 LIFSCHITZ, M.D. 55–62
 LIGHTMAN, S.L. 501–503
 LINDSAY, R.M. 147–150
 LINTON, A.L. 147–150
 LITTLE, R.A. 19–27
 LOH, L. 485–492
 LONG, R.G. 293–296
 LUND, T. 297–299

 MCANULTY, R. 93–103
 MCCAUGHEY, E.S. 155–161
 MACKLON, A.F. 479–483
 MAFFI, D. 143–145
 MAGILL, P.J. 359–367
 MAHUTTE, C.K. 493–495
 MANN, S. 497–500
 MANNING, A.S. 207–209
 MARSHALL, D.H. 137–142
 MATHIAS, C.J. 251–256
 MATSOS, C.G. 469–478
 MATTHEWS, D.M. 285–287
 MELICK, R.A. 401–404
 MICHAEL, J. 353–357
 MILOJEVIC, S. 183–189
 MILEWSKI, P.J. 211–214
 MILLAR CRAIG, M.W. 497–500
 MILLER, N.E. 359–367
 MIRKIN, B.L. 123–129
 MITCHELL-HEGGS, P. 93–103
 MITCHENERE, P. 293–296
 MOORE, P.K. 63–66
 MORGAN, B. 93–103
 MORRIS, C.J. 265–273
 MORROW, G. 289–292
 MORTON, J.J. 451–456
 MOTIL, K.J. 13–18
 MOXHAM, J. 463–468
 MURDOCH, R.D. 389–391

 NEWHAM, D. 463–468
 NICHOLLS, M.G. 443–449
 NIZET, A. 435–441
 NORDIN, B.E.C. 137–142

 O'RIORDAN, J.L.H. 257–263
 ÖSTMAN, J. 199–201

 PAPAPOULOS, S.E. 257–263
 PARSONS, H.G. 13–18
 PATRICK, J. 353–357
 PEART, W.S. 251–256, 337–345
 PENCHARZ, P.B. 13–18
 PETERS, T.J. 1–6, 7–12, 457–462, 505–508
 POULSEN, K. 297–299
 PRICHARD, J.S. 105–113
 PRINCE, A. 329–336
 PRIOR, W. 67–70
 PUUTULA-RÄSÄNEN, L. 381–383

 QUELCH, K.J. 401–404

 RAFTERY, E.B. 497–500
 RAJAGOPALAN, B. 105–113
 RALPHS, D.N.L. 237–243
 RAMPTON, D.S. 389–391
 RAO, S.N. 359–367
 RAWBONE, R.G. 93–103
 RAWLINS, M.D. 479–483
 RE, R. 55–62
 RECORD, C.O. 191–198
 REDEL, J. 257–263
 REEVE, J. 169–172
 REID, B.D. 147–150
 RHODES, M. 401–404
 RIGBY, R.J. 147–150
 ROBIN, M. 435–441
 ROBINSON, L.A. 163–168
 RODDIS, S.A. 231–236
 ROGERS, J. 191–198
 ROWE, J. 49–53
 ROYSTON, J.P. 169–172
 RUSSELL, R.G.G. 131–135

 SAGNELLA, G.A. 337–345
 SARSON, D.L. 237–243
 SCHOUTEN, H. 245–250
 SEVER, P.S. 231–236

 SEVERINI, G. 143–145
 SEWRAJSINGH, G.S. 245–250
 SHIPLEY, K. 211–214
 SIMPSON, M. 137–142
 SINAIKO, A.R. 123–129
 SLADEN, G.E. 389–391
 SMITH, R. 215–223, 275–283, 509–511
 SNASHALL, P.D. 93–103
 SONNENBERG, H. 183–189
 STATIUS VAN EPS, L.W. 245–250
 STELKENS, H. 75–77
 STEPHENS, W.P. 71–74
 STINNESBECK, B. 67–70
 STOKES, G.S. 49–53
 STONER, H.B. 19–27
 STUBBS, W.A. 155–161
 SÜFKE, U. 373–380
 SUTTON, J.R. 469–478

 TATTERSFIELD, A.E. 155–161
 TAYLOR, E. 285–287
 TELLEZ, M. 169–172
 THRELFALL, C.J. 19–27
 TIKKANEN, I. 381–383
 TOEWS, C.J. 469–478
 TREE, M. 451–456

 VALENTE, A.J. 265–273
 VEALL, N. 169–172
 VERESS, A.T. 183–189
 VUUST, J. 297–299

 WAHREN, J. 173–181
 WALTON, K.W. 265–273
 WHITING, B. 311–315
 WILES, C.M. 463–468
 WILLIAMS, J. 49–53
 WILLIAMSON, D.H. 275–283
 WOOD, P.J. 155–161
 WOOLLARD, M.L. 369–372
 WOOTTON, R. 169–172, 393–395

 YATES, D.W. 19–27

Volume 60

SUBJECT INDEX

First and last page numbers of papers to which entries refer are given.
Page numbers marked with an asterisk refer to Editorial Reviews.

- Absorption, intestinal
 calcium 101–107
 competition 221–225
 diarrhoeal disease 131–137*
 dipeptides 221–225
 fluid and electrolytes 131–137*
 mucosal damage 115–118
 oxalate 411–418
 phosphate 55–63
 vitamin D₃ 241–243
- Absorption, renal
 calcium 101–107
 phosphate 171–177
- Acidosis
 ischaemia 537–542
 metabolic 355–361
- Acid protease 41–46
- Acyl-CoA:cholesterol *O*-acyltransferase, liver
 submicrosomal distribution 435–439
- Adenosine ammoniogenesis in parotid gland
 565–569
- Adenosine 3':5'-cyclic monophosphate, intra-
 venous salbutamol 579–585
- Adenosine 5'-phosphate, ammoniogenesis in
 parotid gland 565–569
- Adenosine phosphate deaminase 565–569
- Adenosine triphosphatase (Na⁺,K⁺-activated),
 erythrocyte 229–232
- Adrenaline, hepatic lactate and glucose 543–
 548
- Adrenergic facilitation, angiotensin 343–348*
- Adrenergic resistance 579–585
- α -Adrenoceptor, noradrenaline and vasocon-
 striction 483–489
- β -Adrenoceptor
 blockade 675–679
 blockade and growth 33–40
 lymphocyte cyclic AMP 587–589
 renal 571–577
- Adrenocorticotrophic hormone, spironolactone
 227–233
- β -Adrenoreceptor *see* β -Adrenoceptor
- Affinity chromatography, renin 633–637
- Age
 isoprenaline responses 571–577
 lymphocyte cyclic AMP 587–589
 noradrenaline kinetics 217–219
- Airways
 chronic disease 17–23
- Airways—*continued*
 obstruction 11–15
 resistance 249–253, 579–585
- Albuminuria 693–702
- Alcohol, folate catabolism 221–224
- Aldosterone
 regulation 227–233
 renal hypertension 625–631
 saralasin 377–385
 sympathetic stimulation 399–404
 urinary excretion 229–232
- Alkalosis, metabolic 355–361
- Altitude, pulmonary circulation 599–605*
- Alveolar volume, intrapulmonary haemorrhage
 507–512
- Amino acids, blood
 aromatic 95–100
 branched-chain 95–100
- Ammonia, parotid gland production 565–
 569
- Androgens, sweat gland activity 689–692
- Angiotensin I
 captopril 591–593
 converting enzyme 387–392, 491–498
- Angiotensin II
 adrenergic facilitation 343–348*
 antagonism 377–385
 captopril 591–593
 sodium 377–385
 spironolactone 227–233
- Antiserum, human saliva 179–184
- Antithrombin III, metabolism in liver
 disease 681–688
- Apolipoproteins, plasma 73–80
- Arteries, haemodynamics and responses to
 drugs 659–666
- Arteriovenous pressure difference, skin 499–
 506
- Asthma
 histamine receptors 363–370
 intravenous salbutamol 579–585
- Athletic training, methandienone 457–461
- Atrial pacing, chronic bronchitis 371–375
- Autonomic nervous system
 borderline hypertension 25–31
 haemodialysis hypotension 165–170
 noradrenaline 217–219, 483–489
 sympatholytic drugs 139–143
 tetraplegia 399–404

- Baroreflexes, blood volume 193–200
- Bethanidine, blood pressure and heart rate 139–143
- Bicarbonate, gastric secretion 427–433
- Bile acids, hepatic extraction 65–72
- Bladder, urinary, sympathetic stimulation 399–404
- Blood flow
borderline and essential hypertension 653–658
subcutaneous regulation 157–164, 213–216
transcutaneous oxygen tension 499–506
- Blood platelets, ¹¹¹In-labelled 243–248
- Blood pressure
isometric exercise 139–143, 145–155
noradrenaline 483–489
saralasin 377–385
sympatholytic drugs 139–143
- Blood vessels
arterial occlusion 659–666
diseases 499–506
neurogenic vasoconstriction 483–489
portacaval anastomosis 87–93
portal blood flow 355–361
pulmonary artery wedge pressure 371–375
resistance 5–9
skin 157–164, 213–216, 499–506
- Blood volume, cardiovascular responses 193–200
- Body composition, methandienone 457–461
- Bone
hydrochlorothiazide 101–107
marrow cells 185–190, 191–198
resorption 201–210
- Bone marrow cells
leukaemia 191–198
transferrin 185–190
- Bradykinin 387–392
- Breast cancer 201–210
- Breath holding
effort sense 463–466
expiratory flow measurements 11–15
- Breathing pattern
airway resistance 249–253
sustained lung inflation 667–674
- Bronchitis, cardiac function 371–375
- Bronchomotor tone 249–253
- Caffeine, catecholamines and metabolism 527–535
- Calcium
gastric secretion 427–433
plasma, hydrochlorothiazide 101–107
tubular absorption 101–107
- Calciuria, hydrochlorothiazide 101–107
- Captopril
angiotensins 591–593
angiotensin I-converting enzyme 491–498
- Captopril—*continued*
experimental hypertension 387–392
renin 491–498, 591–593
- Carbon dioxide (¹⁴CO₂), ¹⁴C-labelled substrates 233–235
- Carbon monoxide diffusing capacity, intrapulmonary haemorrhage 507–512
- Carcinoma, liver, antithrombin III metabolism 681–688
- Cardiac muscle, *see* Muscle, heart
- Cardiac output, chronic bronchitis 371–375
- Catecholamines
borderline hypertension 25–31
caffeine 527–535
haemodialysis hypertension 165–170
isoprenaline 571–577
metabolism 183–191*
subcutaneous blood flow 157–164
- Cholecystokinin, first meals 349–353*
- Cholesterol, lipoprotein, home haemodialysis 81–86
- Cholesterol, liver microsomal fractions 435–439
- Cholesterol 7 α -mono-oxygenase, liver sub-microsomes 435–439
- Cholic acid, hepatic extraction 65–72
- Chylomicrons, plasma vitamin D 241–243
- Cirrhosis
antithrombin III metabolism 681–688
primary biliary 207–212
- Clonidine, blood pressure and heart rate 139–143
- Coeliac disease, splenic function 109–113
- Collagen chains, skin 617–623
- Converting-enzyme inhibition 377–385, 387–392
- Copper, liver 207–212
- Corticosterone, spironolactone 227–233
- Cortisol, spironolactone 227–233
- Creatine kinase, primary hypothyroidism 595–597
- Crystalluria, oxalate-rich foods 411–418
- Cyclic AMP *see* Adenosine 3':5'-cyclic monophosphate
- Cytosine arabinoside resistance 191–198
- Dead-space measurement 17–23
- Deconvolution analysis 55–63
- Deoxycorticosterone acetate, salt-retention escape 467–469
- Diabetes mellitus, blood volume 193–200
- Dialysis, renal hypertension 625–631
- Diet
fat-modified 81–86
obesity 519–525
oxalate-rich foods 411–418
- Digoxin, erythrocyte sodium transport 555–564

- 1,25-Dihydroxyvitamin D₃ 101–107
 Disaccharides, intestinal absorption 115–118
 Doping, sports 457–461
 Drug resistance 191–198
 Dyspnoea, respiratory muscle fatigue 463–466
- Effort sense, maintained inspiration 463–466
 Electrolytes, muscle, hypokalaemia 441–449
 Encephalopathy 95–100
 Endoplasmic reticulum, liver enzymes 435–439
 Enteroglucagon, first meals 349–353*
 Enterotoxins 131–137*
 Ergometry, bicycle, hypertension 25–31
 Ergotamine, small arteries 659–666
 Erythrocyte
 adenosine triphosphatase 229–232
 magnesium 225–257
 pitted 109–113
 sodium 229–232, 555–564
 Erythroid cells 185–190
 Essential hypertension 653–658
 Ethane-1-hydroxy-1,1-diphosphonate, renal
 tubular phosphate absorption 171–177
 Exercise
 adrenaline 543–548
 creatine kinase 595–597
 forearm haemodynamics 675–679
 hydrogen ion balance 245–246
 immunological responses 225–228
 isometric 139–143
 lactate and gluconeogenesis 537–542
 sensory nerves, cardiorespiratory responses
 145–155
 sympatholytic drugs 139–143
 Expiratory flow–volume curves 11–15
- Facilitation, adrenergic 343–348*
 Fatigue, respiratory muscle 463–466
 Fat-modified diet, long-term 81–86
 Fatty acids, free, caffeine 527–535
 Ferritin, microheterogeneity and sialic acid
 259–262
 Fibrin, glomerular deposition 47–53
 Fibrinolysis 47–53
 5-Fluorouracil, toxicity and pharmacokinetics
 707–710
 Folate
 catabolism 221–224
 deficiency 131–137*
 Forearm haemodynamics 675–679
 Free fatty acids, turnover 87–93
 Free radicals, scavenging enzymes 211–219
 Fructose biphosphatase, muscle 451–456
 Frusemide
 active and inactive renin 393–398
 renal papillary osmolality 467–469
 renin and indomethacin 479–482
- Gastric inhibitory peptide, first meals 349–353*
 Gastric mucosa, bicarbonate secretion 427–433
 Gastrin, first meals 349–353*
 Gastrointestinal hormones 349–353*
 Geriatric patients, sodium transport 555–564
 Glomerular filtration rate, haemorrhage 703–
 706
 Glomerulus
 fibrin deposition 47–53
 proteinuria 693–702
 Gluconeogenesis
 hepatic, ischaemia 537–542, 543–548
 renal, sodium transport 419–426
 Glucose
 intravenous salbutamol 579–585
 propranolol 675–679
 turnover 87–93
 Glutathione, liver 211–219
 Glutathione peroxidase, iron overload 211–219
 Glutathione reductase, iron overload 211–219
 Glyceryl trinitrate, small arteries 659–666
 Glycocholic acid, hepatic extraction 65–72
 Glycylsarcosine, intestinal absorption 221–225
 Growth, adrenoceptor blockade 33–40
 Gut hormones 349–353*
- H₁- and H₂-receptor antagonists 363–370
 Haemochromatosis 211–219
 Haemodialysis
 fat-modified diet 81–86
 hypotension 165–170
 Haemorrhage, renal renin 703–706
 Head-up tilt, subcutaneous blood flow 213–216
 Heart
 adrenoceptor blockade 33–40
 chronic bronchitis 371–375
 ferritin 259–262
 sensory nerves 145–155
 sympatholytic drugs 139–143
 Henle's loop, ascending, sodium rejection 467–
 469
 Hepatic artery, blood flow 355–361
 Hexokinase, muscle 451–456
 Histamine receptors, asthma 363–370
 Hydrallazine, small arteries 659–666
 Hydrochlorothiazide
 calcium metabolism 101–107
 renin substrate concentration 591–593
 Hydrogen ion balance, exercise 245–246
 β -Hydroxybutyrate, plasma 87–93
 4-Hydroxy-3-methoxymandelic acid, borderline
 hypertension 25–31
 3-Hydroxy-3-methylglutaryl-CoA reductase, liver
 microsomes 435–439
 25-Hydroxy-vitamin D
 plasma chylomicrons 241–243
 ultraviolet irradiation 235–242
 Hypercalcaemia 201–210

- Hypertension
 adrenergic facilitation 343–348*
 angiotensin I-converting enzyme 491–498
 borderline 25–31, 653–658
 essential 653–658
 indomethacin 479–482
 neurogenic 471–477*
 noradrenaline 483–489
 pulmonary 599–605*
 spontaneous 229–232, 491–498
- Hypertension, experimental
 captopril 387–392
 renal 387–392, 625–631
- Hyperthyroidism, sodium transport 555–564
- Hypnosis, isometric exercise pain 145–155
- Hypokalaemia
 cardiac and skeletal muscle 441–449
 sodium transport 555–564
- Hypotension, haemodialysis-induced 165–170
- Hypothyroidism, primary, creatine kinase 595–597
- Immunity, cellular 225–228
- Indium (¹¹¹In)-labelled platelets 243–248
- Indomethacin, renin response 479–482
- Inspiratory pressures 513–518
- Interrupted electrophoresis 617–623
- Intestine, small
 calcium absorption 101–107
 dipeptide absorption 221–225
 oxalate absorption 411–418
 passive permeability 115–118
 peptide transport 607–615*
 phosphate absorption 55–63
 vitamin D₃ absorption 241–243
- Ion transport, kidney 419–426
- Iron
 overload, tissue damage 211–219
 uptake 185–190
- Ischaemia, lactic acidosis 537–542, 543–548
- Isoleucine, blood 95–100
- Isometric exercise
 sensory nerves and cardiorespiratory responses 145–155
 sympatholytic drugs 139–143
- Isoprenaline
 blood pressure 399–404
 forearm blood flow 571–577
 lymphocyte cyclic AMP 587–589
 small arteries 659–666
- Jejunum, dipeptide absorption 221–225
- Kallikrein, pancreatic 199–205
- Kidney
 albumin excretion 693–702
 blood flow, hypertension 653–658
- Kidney—*continued*
 calcium absorption 101–107
 fibrin clearance 47–53
 high-molecular-weight renin 639–651
 hypertension 387–392
 phosphate absorption 171–177
 potassium transport 549–554
 renin molecular weight 41–46, 119–130*, 639–651
 sodium transport 419–426, 555–564
 venous renin 703–706
- Kidney disease
 cancer 201–210
 haemodialysis hypotension 165–170
 hypertension 653–658
 lipoprotein lipase 73–80
 renal failure, erythrocyte sodium 555–564
 phosphate absorption 55–63
- Lactate, blood, propranolol 675–679
- Lactate metabolism, ischaemia and acidosis 537–542, 543–548
- Lactic acidosis 543–548
- Lactulose, intestinal absorption 115–118
- Leucine, blood 95–100
- Leucocyte
 cyclic AMP 587–589
 zinc content 237–239
- Leucocytosis, stress 225–228
- Leukaemia, myeloblasts 191–198
- Limb capacitance, morphine 5–9
- Lipoprotein lipase 73–80
- Liver
 blood flow 355–361, 653–658
 bile acid extraction 65–72
 enzyme induction 221–224
 free-radical scavenging enzymes 211–219
 glutathione 211–219
 microsomal fractions 435–439
 oxygen consumption 355–361
- Liver disease
 bile acid extraction 65–72
 carcinoma 681–688
 cirrhosis 95–100, 207–212, 681–688
 hypertension 653–658
 organelle pathology 207–212
- Lung
 alveolar volume 507–512
 circulation 599–605*
 fluid balance 1–4*
 gas mixing 17–23
 haemorrhage 507–512
 imaging, ventilation/perfusion 17–23
 mechanics 17–23
 volume 249–253, 667–674
- Lymphocyte, cyclic AMP formation 587–589
- L-Lysyl-L-lysine, intestinal absorption 221–225

- α_2 -Macroglobulin, kallikrein interaction 199–205
 Magnesium
 deficiency and excess 549–554
 menopause 255–257
 Malate–aspartate shuttle, renal sodium transport 419–426
 Mannitol, intestinal absorption 115–118
 Menopause, serum, urinary, and erythrocyte magnesium 255–257
 Metabolic rate, caffeine 527–535
 Methandienone, athletic performance and body composition 457–461
 Micropuncture, renal 171–177, 549–554
 Morphine, forearm capacitance 5–9
 Motilin, first meals 349–353*
 Muscle, cardiac, hypokalaemia 441–449
 Muscle, skeletal
 blood flow in hypertension 653–658
 fructose bisphosphatase 451–456
 hexokinase 451–456
 hypokalaemia 441–449
 inspiratory 513–518
 2-oxoglutarate dehydrogenase 451–456
 phosphofructokinase 451–456
 respiratory 463–466, 513–518
 zinc content 237–239
 Myeloblasts, leukaemia 191–198
 Myocardial infarction, subcutaneous blood flow 157–164, 213–216

 Neurogenic hypertension 471–477*
 Neutensin, first meals 349–353*
 Noradrenaline
 α -adrenoceptor-mediated vasoconstriction 483–489
 kinetics, age-dependence 217–219
 tetraplegia 399–404
 Nutrition, thyroid and catecholamines 183–191*

 Obesity
 caffeine 527–535
 postprandial thermogenesis 519–525
 Oedema, pulmonary 1–4*, 599–605*
 Oestrogen, serum, urinary and erythrocyte magnesium 255–257
 Oligopeptides, intestinal transport 607–615*
 Oophorectomy, serum, urinary and erythrocyte magnesium 255–257
 Optical isomerism, DL- and D-propranolol 675–679
 Osmolality, renal papillary 467–469
 Osteogenesis imperfecta, skin collagen 617–623
 Osteomalacia, ultraviolet irradiation 235–242
 Oxalate, diet and urinary output 411–418

 Oxidation rates, ^{14}C -labelled substrates 233–235
 2-Oxoglutarate dehydrogenase, muscle 451–456
 Oxprenolol, blood pressure and heart rate 139–143
 Oxygen
 consumption, liver 355–361
 skin partial pressure 499–506

 Pain, isometric exercise 145–155
 Pancreatic polypeptide hormone, first meals 349–353*
 Pancreatitis, plasma kallikrein 199–205
 Papillary sodium concentration 467–469
 Parathyroid hormone
 experimental undersecretion 101–107, 549–554
 gastric bicarbonate secretion 427–433
 Parotid gland, ammonia production 565–569
 D-Penicillamine, primary biliary cirrhosis 207–212
 Peptides, intestinal absorption 221–225, 607–615*
 pH, muscle, hypokalaemia 441–449
 Phenoxybenzamine, blood pressure and heart rate 139–143
 Pharmacokinetics, fluorouracil 707–710
 Phentolamine, blood pressure and heart rate 139–143
 Phosphate absorption
 intestinal 55–63
 renal 171–177
 Phosphodiesterase, caffeine 527–535
 Phosphofructokinase, muscle 451–456
 Plasma flow, renal renin 703–706
 Plasma volume, chronic bronchitis 371–375
 Plethysmography
 forearm blood flow 571–577
 venous occlusion 5–9
 Portacaval anastomosis 87–93
 Portal vein, blood flow 355–361
 Positive end-expiratory pressure, clinical use 1–4*
 Potassium depletion
 cardiac and skeletal muscle 441–449
 renal tubular transport 549–554
 Pressure load detection, respiratory 513–518
 Pressure–volume hysteresis, respiratory 249–253
 Propranolol
 growth 33–40
 haemodynamics 675–679
 heart 33–40
 metabolism 675–679
 renin substrate concentration 591–593

- Prostaglandins**
 bone resorption 201–210
 renal hypertension 625–631
 sodium balance 405–410
Prostaglandins E, F, sodium balance 405–410
Proteinase, human renin 633–637
Proteins, salivary and seminal 179–184
Proteinuria 693–702
Pseudorenin 633–637
Puberty, sweat gland activity 689–692
Pulmonary arterial wedge pressure 371–375
Pulmonary circulation, altitude 599–605*
Pulmonary oedema 1–4*
- Renin**
 active 393–398
 assays 591–593
 borderline hypertension 25–31
 captopril 491–498, 591–593
 frusemide 393–398
 high-molecular-weight 639–651
 inactive 119–130*, 393–398
 indomethacin 479–482
International Reference Preparation 633–637
 isoprenaline 571–577
 low-salt state 343–348*, 377–385
 molecular weight 41–46, 639–651
 proteinase 633–637
 renal hypertension 625–631
 spironolactone 227–233
 substrate 591–593
 tetraplegia 399–404
 volume contraction 479–482
Renin–angiotensin system
 adrenergic facilitation 343–348*
 borderline hypertension 25–31
Renin inhibitor, renal 639–651
Respiration, sensory nerves 145–155
Respiratory sensations
 mouth negative pressure 513–518
 muscle fatigue 463–466
Reverse tri-iodothyronine, metabolism 183–191*
R–R interval, blood volume 193–200
- Salbutamol, asthma** 579–585
Saliva
 ammonia 565–569
 proteins 179–184
Salivary gland *see* Parotid gland
Secretin, first meals 349–353*
Semen, proteins 179–184
Sensory neuropathy, isometric exercise 145–155
Sex difference, sweat gland activity 689–692
- Shock, hepatic lactate and gluconeogenesis** 537–542
Sialic acid, serum ferritin homogeneity 259–262
Skeletal muscle *see* Muscle, skeletal
Skin
 collagen chains 617–623
 subcutaneous blood flow 157–164, 213–216
 transcutaneous oxygen tension 499–506
 ultraviolet irradiation 235–242
Sodium
 depletion 625–631
 erythrocyte transport 555–564
 hypertension 471–477*, 625–631
 papillary concentration 467–469
 prostaglandins 405–410
 renal hypertension 625–631
 renal transport 419–426
 saralasin 377–385
Spironolactone, aldosterone regulation 227–233
Spleen, coeliac disease 109–113
Starvation, plasma glucose and free fatty acids 87–93
Stereoselectivity, DL- and D-propranolol 675–679
Stomach
 bicarbonate secretion 427–433
 first meals 349–353*
 gastrin 349–353*
 gastric inhibitory peptide 349–353*
Stress, immunological responses 225–228
Subcellular fractionation, analytical 211–219
Superoxide dismutase 211–219
Sweat glands, puberty 689–692
Sympathetic nervous system
 borderline hypertension 25–31
 noradrenaline 217–219, 483–489
 tetraplegia 399–404
Sympatholytic drugs, cardiovascular response to exercise 139–143
- Temperature, body, serum creatine kinase** 595–597
Tetrahydrouridine 191–198
Tetraplegia, sympathetic stimulation 399–404
Thermogenesis, obesity 519–525
Thrombocytes, ¹¹¹In-labelled 243–248
Thromboplastin, fibrin deposition 47–53
Thyroid gland, metabolism 183–191*
Thyroparathyroidectomy, experimental 101–107, 171–177
Thyroxine, metabolism 183–191*
Timolol, growth and heart 33–40
Toxicity, 5-fluorouracil 707–710
Transaminase, renal gluconeogenesis 419–426
Transferrin, monoferric 185–190
Transplantation, renal 55–63, 73–80

- Transport
 erythrocyte sodium 555–564
 intestinal peptides 607–615*
 renal potassium 549–554
 renal sodium 419–426, 555–564
- Triacylglycerols, plasma 73–80
- Triglyceride, lipoprotein, home haemodialysis 81–86
- Tri-iodothyronine, metabolism 183–191*
- Tropical malabsorption 131–137*
- Trypsin inhibitor 639–651
- Tubule, renal
 ascending loop 467–469
 calcium absorption 101–107
 phosphate absorption 171–177
- Ultraviolet irradiation, vitamin D 235–242
- Uraemia, lipoprotein lipase 73–80
- Urinary bladder, sympathetic stimulation 399–404
- Urine
 oxalate content 411–418
 protein content 693–702
- Valine, blood 95–100
- Vascular diseases 499–506
- Vascular resistance 5–9, 659–666
- Vasoconstriction, neurogenic 483–489
- Veins, intravenous morphine 5–9
- Venous pressure, skin 499–506
- Ventilation, lung, sustained inflation 667–674
- Ventilation/perfusion lung-imaging 17–23
- Vitamin D
 plasma chylomicrons 241–243
 ultraviolet irradiation 235–242
- Volume–pressure hysteresis, respiratory 249–253
- Water retention, hypertension 471–477*
- Wedge pressure, pulmonary artery 371–375
- Zinc, leucocytes and muscles 237–239

CORRECTIONS

Volume 59

page 191: *to the listed addresses below the authors' names should be added* Liver Unit, Kings College Hospital and Medical School, London

page 473, Fig. 4 legend: *for* C_{18:0}, Oleic acid; C_{18:2}, linoleic acid; C_{18:0}, stearic acid; C_{16:1}, myristic acid *read* C_{18:1}, Oleic acid; C_{18:2}, linoleic acid; C_{18:0}, stearic acid; C_{16:1}, palmitoleic acid.