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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. Doses	iv
3.6. Enzymes	iv
3.7. Evaluation of measurement procedures	iv
3.8. Figures and Tables	iv
3.9. Footnotes	v
3.10. Isotope measurements	v
3.11. Radionuclide applications in man	v
3.12. Methods	v
3.13. Nomenclature of disease	v
3.14. Powers in Tables and Figures	v
3.15. References	v
3.16. Solutions	vi
3.17. Spectrophotometric data	vi
3.18. Spelling	vi
3.19. Statistics	vi
3.20. Trade names	vi
4. Units: The SI System	vi
5. Abbreviations, Conventions, Definitions, Symbols and Special Comments	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 Chairman of the Editorial Board.

2. SUBMISSION OF MANUSCRIPTS: GENERAL INFORMATION AND FORMAT

2.1. *General*

Papers submitted for publication should be sent to the Chairman of the Editorial Board (Dr D. J. Galton, Department of Medicine, St Bartholomew's Hospital, West Smithfield, London EC1M 6BQ).

The submission should contain three copies (of which two 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 Chairman of the Editorial Board 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

Twenty-five 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 appears at the end of this document.

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. 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.

3.6. Enzymes

Nomenclature should follow that given in *Enzyme Nomenclature* (1972), Elsevier Publishing

Co., Amsterdam, 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 $1\mu\text{mol}$ 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.

3.7. 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.

3.8. 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; simple histograms recording only a few values can more economically be replaced by 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. A horizontal or square layout is preferred to a vertical one. 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, neither 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.

3.9. 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.

3.10. 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 curies per unit weight or, for stable isotopes, as atoms % excess.

Where possible, radioactivity should be expressed in terms of curies (Ci) or of disintegrations/s (d.p.s.).

3.11. 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.

3.12. 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* (1978) **169**, 1–21).

3.13. Nomenclature of disease

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

3.14. 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. ($\mu\text{mol/l}$)' or as 15 under the heading ' $10^5 \times \text{concn. (mol/l)}$ ', but not as 15 under the heading 'concn. (mol/l $\times 10^{-5}$)'.

3.15. References

These should be in alphabetical order of first authors. The full title of the paper, the journal and the **first and last** page numbers should be given, e.g.

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:

MOLLISON, P.L. (1967) *Blood Transfusion in Clinical Medicine*, 4th edn, p. 50. Blackwell Scientific Publications, Oxford.

REID, L. (1968) In: *The Lung*, p. 87. Ed. Liebow, A.A. & Smith, D.E. Williams and Wilkins, Baltimore.

References in the text should follow the style: Clark, Freedman, Campbell & Winn (1969) on the first quotation and, if there are more than two authors, 'Clark *et al.* (1969)' or '(Clark *et al.*, 1969)' in subsequent quotations.

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.

3.16. 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.

3.17. 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 $\text{cm}^2 \text{mol}^{-1}$).

3.18. 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).

3.19. 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 $P < 0.01$.

3.20. 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:

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

* 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 m μ m.

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.

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
adrenoreceptor (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
Ångstrom (Å)	<i>not used</i> ; express in nm (1 Ångstrom = 10 ⁻¹ nm)
antidiuretic hormone	ADH (when referring to the physiological secretion)
arginine	Arg
arteriovenous	a-v: <i>permitted</i> in Figures and Tables
asparagine	Asn
aspartic acid	Asp
atmosphere (unit of pressure)	<i>not used</i> ; express in kPa (1 atmosphere = 101.325 kPa)
atomic weight	at. wt.
blocking agents	e.g. β -adrenoreceptor antagonists preferred
blood pressure	express in mmHg
blood urea nitrogen	<i>not used</i> ; recalculate as urea, express in mmol/l
blood volume	BV
body temperature and pressure, saturated	BTPS
British Pharmacopoeia	write in full and give edition
calculated	calc. (in Tables only)
'Calorie' (= 1000 cal)	<i>not used</i> ; recalculate as kilojoules (1 'Calorie' = 4.184 kJ)

carbon dioxide output (in respiratory physiology)	\dot{V}_{CO_2} ; express in ml STP/min	equivalents (amount of a chemical)	<i>not used</i> ; recalculate in molar terms
cardiac frequency	f_c ; in beats/min	erythrocyte count	express as 10^{12} cells/l
cardiac output	express in l/min	erythrocyte sedimentation rate	ESR
centimetre	cm	ethanol, ethanolic	not ethyl alcohol or alcoholic
clearance of x	C_x	ethylenediaminetetra-acetate	EDTA
Coenzyme A and its acyl derivatives	Coa and acyl-CoA	exchangeable	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
compliance (respiratory physiology)	C; express in 1 kPa^{-1}	extinction	<i>use</i> absorbance
concentrated	conc.	extracellular fluid	ECF
concentration	concn.; may be denoted []; e.g. plasma [HCO_3^-]	extracellular fluid volume	ECFV
conductance (respiratory physiology)	G; express in $1. \text{s}^{-1} \text{ kPa}^{-1}$	extraction ratio of x (renal)	E_x
correlation coefficient	r; may be used without definition	Figure (with reference numeral)	Fig.; plural, Figs.
counts/min, counts/s	c.p.m., c.p.s.	filtered load of x (renal)	F_x
cubic centimetres	<i>use</i> ml	follicle-stimulating hormone	F SH
curie	Ci ($1 \text{ Ci} = 3.7 \times 10^{10}$ d.p.s.)	forced expiratory volume in 1.0 s	FEV $_{1.0}$
cycle/s	Hz	fractional concentration in dry gas	F
cysteine	Cys	fractional disappearance rate	k (as in $A = A_0 e^{-kt}$)
dates	e.g. 11 August 1970	frequency of respiration	f_R ; in breaths/min
dead-space minute ventilation	\dot{V}_D	functional residual capacity	FRC
dead-space volume	V_D	gas-liquid chromatography	g.l.c.
degrees, Celsius or centigrade	$^{\circ}\text{C}$	gas transfer factor	T; in $\text{mmol min}^{-1} \text{ kPa}^{-1}$
deoxy (prefix)	<i>not</i> desoxy	glomerular filtration rate	GFR
deoxycorticosterone	DOC	glutamic acid	Glu
deoxycorticosterone acetate	DOCA	glutamine	Gln
deoxyribonucleic acid	DNA	glutathione	GSH (reduced); GSSG (oxidized)
dialysate	diffusate preferred; 'dialysate' should be clearly defined	glycine	Gly
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) $_2\text{D}_3$	growth hormone	GH; if human, HGH
dilute	dil.	haematocrit	<i>not</i> allowed; <i>use</i> packed cell volume (PCV)
2,3-diphosphoglycerate	2,3-DPG	haemoglobin	Hb; express in g/dl
direct current	d.c.	half-life	$t_{1/2}$
disintegrations/min	d.p.m.	hertz (s^{-1})	Hz
disintegrations/s	d.p.s.	histidine	His
dissociation constant		hour	h
acidic	K_a	human chorionic gonadotropin	HCG
basic	K_b	human placental lactogen	HPL
apparent	e.g. K'_a	hydrocortisone	<i>use</i> cortisol
minus log of	pK	hydrogen ion activity	aH; express in nmol/l
doses	avoid Latin designations such as b.d. and t.i.d.	minus log of	pH
dyne	<i>not used</i> ; express in newtons ($1 \text{ dyne} = 10^{-5} \text{ N}$)	25-hydroxycholecalciferol	25-(OH) D_3
elastance	E; express in Pa m^{-3}	hydroxyproline	Hyp
electrocardiogram	ECG	immunoglobulins	IgA, IgD, IgE, IgG, IgM
electroencephalogram	EEG	injection routes:	<i>use</i> abbreviations only in Figures
electromotive force	e.m.f.	intra-arterial	i.a.
electron spin resonance	e.s.r.	intramuscular	i.m.
electronvolt	eV (for radiation energies)	intraperitoneal	i.p.
equation	eqn.	intravenous	i.v.
		subcutaneous	s.c.

international unit	i.u. (definition and reference should be given for uncommon or ambiguous applications, e.g. enzymes)	millimolar (concentration)	mmol/l; <i>not</i> mM
		millimole	mmol
		minimum	min.
		minute (60 s)	min
		molal	mol/kg
		molar (concentration)	mol/l; <i>not</i> M
		molar adsorption 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 osmolality of a solution
isotopically labelled compounds	e.g. [U- ¹⁴ C]glucose, [1- ¹⁴ C]glucose, sodium [1- ¹⁴ C]-acetate; <i>use</i> ¹³¹ I-labelled albumin, <i>not</i> [¹³¹ I]albumin, since native albumin does not contain iodine 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
		ornithine	Orn
lactate dehydrogenase	LDH	ortho-	<i>o</i> -
leucine	Leu	orthophosphate (inorganic)	<i>P</i> ₁
leucocyte count	express as 10 ⁹ cells/l	osmolality	express in mol (or mmol)/kg
lipoproteins (serum)		oxygen uptake per minute (in respiratory physiology)	$\dot{V}O_2$; express in ml STP/min
high density	HDL	packed cell volume	PCV
low density	LDL	page, pages	p., pp.
very low density	VLDL	para-	<i>p</i> -
litre	l (write in full if confusion with the numeral l is possible)	para-aminohippurate	PAH
logarithm (base 10)	log	partial pressure	<i>P</i> ; express in either kPa or mmHg (see p. vi)
logarithm (base e)	ln	e.g. alveolar, of O ₂	<i>P</i> _{A,O₂}
luteinizing hormone	LH	arterial, of CO ₂	<i>P</i> _{a,CO₂}
lysine	Lys	capillary, of O ₂	<i>P</i> _{c,O₂}
maximum	max.	mixed venous, of CO ₂	<i>P</i> \bar{v} ,CO ₂
mean corpuscular haemoglobin	MCH; express in pg	pascal	Pa
mean corpuscular haemoglobin concentration	MCHC; express in g/dl	per	/
mean corpuscular volume	MCV; express in fl (1 μ m ³ = 1 fl)	per cent	%
median lethal dose	LD ₅₀	Petroleum ether	<i>not used</i> ; <i>use</i> light petroleum and give boiling range
meta-	<i>m</i> -	phenylalanine	Phe
melting point	m.p.	plasma renin activity	express as pmol of angiotensin I h ⁻¹ ml ⁻¹
methanol, methanolic	<i>not</i> methyl alcohol		
methionine	Met	plasma volume	PV
metre	m	poise	1 poise = 10 ⁻¹ N s m ⁻²
Michaelis constant	<i>K</i> _m	potential difference	p.d.
micromole	μ mol	power output	W (1 W = 0.1635 kpm/min)
micron (10 ⁻⁶ m)	μ m; <i>not</i> μ	precipitate	ppt.
milliequivalent	<i>not used</i> ; give amount in mmol		
millilitre	ml		
millimetre of mercury	mmHg; for blood pressure and, at authors' discretion, for gas tensions: see p. vi (1 mmHg = 0.133 kPa)		

pressure	P ; express in kPa (except for blood pressures); 1 kPa = 7.5 mmHg	steroid nomenclature	see <i>Biochemical Journal</i> (1969) 113 , 5–28; (1972) 127 , 613–617
probability of an event being due to chance alone	P	sulphydryl	use thiol or SH
proline	Pro	sum	Σ
protein-bound iodine (plasma)	PBI	Svedberg unit	S
pulmonary capillary blood flow	\dot{Q}_c	temperature (absolute)	T
pyrophosphate (inorganic)	PPi	temperature, thermodynamic	t
rad (radiation dose; 10^{-5} J absorbed/g of material)	not abbreviated	thin-layer chromatography	$^{\circ}\text{K}$
red blood cell	use erythrocyte; express counts as 10^{12} cells/l	threonine	t.l.c.
red cell mass	RCM	thyrotrophic hormone	Thr
relative band speed (partition chromatography)	R_F	thyrotrophin releasing hormone	TSH
renin	see plasma renin activity	tidal volume	TRH
residual volume	RV	time (symbol)	V_T
resistance (rheological)	R ; express in kPa l^{-1} s	time of day	t
respiratory quotient (time-averaged)	R	torr	e.g. 18.15 hours
revolutions	rev.	total lung capacity	not used; use kPa (1 torr = 0.133 kPa)
rev./min	not r.p.m.; use g if possible (see p. viii)	tryptophan	TLC
ribonucleic acid	RNA	tubular maximal reabsorptive capacity for x	Trp
röntgen	R	tyrosine	$T_{m,x}$
saturation	S , e.g. S_a, O_2 for arterial oxygen saturation (see partial pressure for other analogous abbreviations)	ultraviolet	Tyr
second (time)	s	urinary concentration of x	u.v.
serine	Ser	valency	U_x
solvent systems	e.g. butanol/acetic acid/water (4:1:1, by vol.), butanol/acetic acid (4:1, v/v)	valine	e.g. Fe^{2+} , not Fe^{++}
species	sp., plural spp.	variance ratio	Val
specific activity	sp. act. Confusion must be avoided between e.g. specific radioactivity and the specific activity of an enzyme	vascular resistance	F
specific conductance of airways	sGaw; express in s^{-1} kPa $^{-1}$	velocity	express in kPa l^{-1} s (with value in dyne cm s^{-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
standard deviation	SD	venous admixture	v ; express as m s^{-1}
standard error of the mean	SEM	veronal	Q_{va}
standard temperature and pressure	STP	viscosity, dynamic	used only for buffer mixtures; otherwise use 5,5'-diethylbarbituric acid
		viscosity, kinematic	η
		vital capacity	ν
		volt	VC
		volume of blood (in cardio-respiratory physiology)	V
		watt	Q ; use \dot{Q} for blood flow rate
		wavelength	rate
		weight	W
		white blood cell	λ
			wt.
			use leucocyte; express counts as 10^9 cells/l

AUTHOR INDEX

- ABER, M., see Al-Khader, A.A. *et al.*
- AGGETT, P.J., see Atherton, D.J. *et al.*
- ALBERTINI, R., ROSAS, R., CROXATTO, H.R. & ROBLERO, J. Kallikrein-kinin system in one- and two-kidney Goldblatt hypertensive rats 227
- AL-KHADER, A.A., STEWART, C. & ABER, M. Pregnancy-associated disease of the renal microcirculation 189
- ANDERSEN, R.B., see Sørensen, O.H. *et al.*
- ARDAILLOU, R., see Lafontaine, J.J. *et al.*
- ARROYO, V., see Wilkinson, S.P. *et al.*
- ARRUDA, J.A.L., see Julka, N.K. *et al.*
- ATHERTON, D.J., MULLER, D.P.R., AGGETT, P.J. & HARRIES, J.T. A defect in zinc uptake by jejunal biopsies in acrodermatitis enteropathica 505
- AULD, C.D., LIGHT, I.M. & NORMAN, J.N. Accidental hypothermia and rewarming in dogs 601
- AZAR, S., JOHNSON, M.A., SCHEINMAN, J., BRUNO, L. & TOBIAN, L. Regulation of glomerular capillary pressure and filtration rate in young Kyoto hypertensive rats 203
- BALASUBRAMANIAM, S., MITROPOULOS, K. A., MYANT, N. B., MANCINI, M. & POSTIGLIONE, A. Acyl-coenzyme A-cholesterol acyl-transferase activity in human liver 373
- BALL, S. G., see Oates, N.S. *et al.*
- BALLARD, F.J., TOMAS, F.M. & STERN, L.M. Increased turnover of muscle contractile proteins in Duchenne muscular dystrophy as assessed by 3-methylhistidine and creatinine excretion 347
- BALLARD, F.J., see also Tomas, F.M. *et al.*
- BASS, N.M., KIRSCH, R.E., TUFF, S.A., CAMPBELL, J.A. & SAUNDERS, J.S. Radioimmunoassay measurement of urinary ligandin excretion in nephrotoxin-treated rats 419
- BAUEREISS, K., see Konrads, A. *et al.*
- BARTON, R.N., see Stoner, H.B. *et al.*
- BARTTER, F.C., see Düsing, R. *et al.*
- BENDER, D.A., EARL, C.J. & LEES, A.J. Niacin depletion in Parkinsonian patients treated with L-dopa benserazide and carbidopa 89
- BERGSTRÖM, J., see Möller, P. *et al.*
- BERMAN, M. see Wajchenberg, B.L. *et al.*
- BOBERG, J., see Ostlund-Lindqvist, A.-M. & Boberg, J.
- BOUCHER, B.J., see Yudkin, J.S. *et al.*
- BOURKE, E., see Howie, M.B. & Bourke, E.
- BRITTEN, K.E. Editorial Review: The measurement of intrarenal flow distribution in man 101
- BROWN, J.J., see Fraser, R. *et al.*
- BRUNO, L., see Azar, S. *et al.*
- BUMPUS, F.M., see Sen, S. *et al.*
- BURDEN, A.C. & THURSTON, H. Plasma renin activity in diabetes mellitus 255
- BURSTON, D., see Matthews, D.M. *et al.*; see also Schedl, H.P. *et al.*
- CALVERT, G.D. & JAMES, H.M. Low-density lipoprotein turnover studies in man. Evaluation of the integrated rate equations method, use of a whole-body radioactivity counter, and the problem of partial denaturation 71
- CAMPBELL, J.A., see Bass, N.M. *et al.*
- CAMPBELL, I.W., see Hume, L. *et al.*
- CAMPBELL, W.B., SCHMITZ, J.M. & ITSKOVITZ, H.D. Effect of sodium depletion on the steroidogenic and pressor actions of angiotensin in the rat 325
- CAVILL, I., RICKETTS, C. & JACOBS, A. Erythropoiesis, iron stores and tissue iron exchange in man 223
- CAWTHORNE, M.A., see Ma, G.Y. *et al.*
- CHAMULEAU, R.A.F.M., see Vahlkamp, T. *et al.*
- CHU, P.K., see Ellis, W.R. *et al.*
- CLAMP, J.R., HARTOG, M. & SHELLEY, J.H. Carbohydrate-containing materials in urine from normal and diabetic subjects 193
- CLARKE, B.F., see Hume, L. *et al.*
- CONSTABLE, A.R., JOEKES, A.M., KASIDAS, G.P., O'REGAN, P. & ROSE, G.A. Plasma level and renal clearance of oxalate in normal subjects and in patients with primary hyperoxaluria or chronic renal failure or both 299
- COOK, G.G., see Peters, T.J. *et al.*
- CRAGG, S.J., see Worwood, M. *et al.*
- CRANSTON, W.I., see Townsend, Y. & Cranston, W.I.
- CROXATTO, H.R., see Albertini, R. *et al.*

- DAVIES, M.R., LAMBERT, L.P. & MARSHALL, R.D. L-Asparaginyl-tRNA synthetase and L-asparagine synthetase activities of L-asparaginase-sensitive and -resistant forms of the mouse Gardner lymphoma 6C3HED 539
- DAY, R.C., HARRY, D.S., OWEN, J.S., FOO, A.Y. & MCINTYRE, N. Lecithin-cholesterol acyltransferase and the lipoprotein abnormalities of parenchymal liver disease 575
- DEANA, R., RIGONI, F. & GALZIGNA, L. Inhibition of rat liver mitochondrial 3-hydroxy-3-methylglutaryl-CoA lyase by succinyl-CoA 251
- DERKX, F.H.M., WENTING, G.J., MAN IN 'T VELD, A.J., VERHOEVEN, R.P. & SCHALEKAMP, M.A.D.H. Evidence of activation of circulating inactive renin by the human kidney 115
- DIETERMANN, K.H., see Menge, H. *et al.*
- DIETZ, R., see Mann, J.F.E. *et al.*
- DORMANDY, T.L., see Lunec, J. & Dormandy, T.L.
- DURRINGTON, P.N. Effect of phenobarbitone on plasma apolipoprotein B and plasma high-density-lipoprotein cholesterol in normal subjects 501
- DÜSING, R., GILL, J.R., JR & BARTTER, F.C. Prolactin in primary aldosteronism 381
- DÜSING, R. see also Kramer, H.J. *et al.*
- EARL, C.J., see Bender, D.A. *et al.*
- EARNSHAW, M.J., see Henderson, R.G. *et al.*
- EDWARDS, R.H.T., see Wiles, C.M. *et al.*
- ELLIOTT, A.J., see Healy, J.K. *et al.*
- ELLIS, W.R., CHU, P.K. & MURRAY-LYON, I.M. The influence of ammonia and octanoic acid on liver regeneration in the rat 95
- ERIKSSON, S., see Möller, P. *et al.*
- EWING, D.J., see Hume, L. *et al.*
- FERREIRA, M.N.L., see Wajchenberg, B.L. *et al.*
- FOO, A.Y., see Day, R.C. *et al.*
- FORSLING, M.L., see Williams, E.S. *et al.*
- FRANCE, M.W., see Yudkin, J.S. *et al.*
- FRASER, R., BROWN, J.J., LEVER, A.F., MASON, P.A. & ROBERTSON, J.I.S. Editorial Review: Control of aldosterone secretion. 389
- FRAYN, K.N., see Stoner, H.B. *et al.*
- FRISK-HOLMBERG, M., see Juhlin-Dannfelt, A. *et al.*
- FÜRST, P., see Möller, P. *et al.*
- GALZIGNA, L., see Deana, R. *et al.*
- GANDY, R.H., see Matthews, D.M. *et al.*
- GANTEN, D., see Mann, J.F.E. *et al.*
- GARDNER, M.L.G. & HEADING, R.C. Effect of 'elemental' diets on absorptive and enzymic activities on 5-fluorouracil toxicity in rat small intestine 243
- GARRARD, C.S. & LANE, D.J. The pattern of breathing in patients with chronic airflow obstruction 215
- GARST, J.B., KOLETSKY, S., WISENBAUGH, P.E., HADADY, M. & MATTHEWS, D. Arterial wall renin and renal venous renin in the hypertensive rat 41
- GILL, J.R., JR, see Düsing, R. *et al.*
- GOMEZ-SANCHEZ, C., see Holland, O.B. *et al.*
- GOLDBERG, A., see McColl, K.E.L. *et al.*; see also Meredith, P.A. *et al.*
- GOVE, C.D., see Ma, G.Y. *et al.*
- GRACE, S.A., see Richards, H.K. *et al.*
- GRAY, T.K., see Walton, J. & Gray, T.K.
- GRIBBIN, B., PICKERING, T.G. & SLEIGHT, P. Arterial distensibility in normal and hypertensive man 413
- GROSS, F., see Konrads, A. *et al.*
- HADADY, M., see Garst, J.B. *et al.*
- HARRIES, J.T., see Atherton, D.J. *et al.*
- HARRY, D.S., see Day, R.C. *et al.*
- HARTOG, M., see Clamp, J.R. *et al.*
- HEADING, R.C., see Gardner, M.L.G. & Heading, R.C.
- HEALY, J.K., ELLIOTT, A.J. & OWECZKIN, I.J. Influence of angiotensin II, ouabain and hydrostatic pressure on insulin and electrolyte concentration of fluid perfusing pig carotid arteries *in vivo* 445
- HEIGENHAUSER, G.J.F. & JONES, N.L. Comparison of two rebreathing methods for the determination of mixed venous partial pressure of carbon dioxide during exercise 433
- HELLSTRÖM, K., see Möller, P. *et al.*
- HEMS, D.A. Editorial Review: Rapid hormonal control of hepatic catabolism in health and disease 197
- HEMS, D.A., see also Ma, G.Y. *et al.*
- HENDERSON, R.G., RUSSELL, R.G.G., EARNSHAW, M.J., LEDINGHAM, J.G.G., OLIVER, D.O. & WOODS, C.G. Loss of metacarpal and iliac bone in chronic renal failure: influence of haemodialysis, parathyroid activity, type of renal disease, physical activity and heparin consumption 317
- HILTON, P.J., see Jones, R.B. *et al.*
- HJORTH, L., see Sørensen, O.H. *et al.*
- HOFBAUER, K.G., see Konrads, A. *et al.*

- HOLLAND, O.B., GOMEZ-SANCHEZ, C. & ZIEGLER, T. Hypertension with mineralocorticoid administration to the Long-Evans rat 109
- HOPKINS, J.M.P. & PETERS, T.J. Subcellular distribution of radio-labelled iron during intestinal absorption in guinea-pig enterocytes with special reference to the mitochondrial localization of the iron 179
- HOPWOOD, J.J., MULLER, V. & POLLARD, A.C. Post- and pre-natal assessment of α -L-iduronidase deficiency with a radiolabelled substrate 591
- HOWDLE, P.D., see King, R.F.G.J. *et al.*
- HOWIE, M.B. & BOURKE, E. Metabolism of *p*-aminobenzoic acid in the perfused liver of chronically uraemic rats 9
- HUBBARD, J.I., see Sirett, N.E. *et al.*
- HUME, L., EWING, D.J., CAMPBELL, I.W., REUBEN, S.R. & CLARKE, B.F. Heart-rate response to sustained hand grip: comparison of the effects of cardiac autonomic blockade and diabetic autonomic neuropathy 287
- ITSKOVITZ, H.D., see Campbell, W.B. *et al.*
- JACOBS, A., see Cavill, I. *et al.*; see also Worwood, M. *et al.*
- JAMES, H.M., see Calvert, G.D. & James, H.M.
- JOEKES, A.M., see Constable, A.R. *et al.*
- JOHNS, E.J. Action of angiotensin I converting enzyme inhibitor on the control of renal function in the cat 365
- JOHNSON, M.A. see Azar, S. *et al.*
- JOHNSON, V.E., see Jones, R.B. *et al.*
- JONES, D.A., see Wiles, C.M. *et al.*
- JONES, N.L., see Heigenhauser, G.J.F. & Jones, N.L.; see also Ryan, W.J. *et al.*
- JONES, P.E., see Peters, T.J. *et al.*
- JONES, R.B., JOHNSON, V.E., PATRICK, J. & HILTON, P.J. Effect of acid-base changes on the intracellular sodium, potassium and water content of human leucocytes *in vitro* 385
- JOWETT, T.P., see Wilkinson, S.P. *et al.*
- JUHLIN-DANNFELT, A., FRISK-HOLMBERG, M., KARLSSON, J. & TESCH, P. Central and peripheral circulation in relation to muscle-fibre composition in normo- and hyper-tensive man 335
- JULKA, N.K., ARRUDA, J.A.L. & KURTZMAN, N.A. The mechanism of amphotericin-induced distal acidification defect in rats 555
- KARLSSON, J., see Juhlin-Dannfelt, A. *et al.*
- KASIDAS, G.P., see Constable, A.R. *et al.*
- KELLEHER, J., see King, R.F.G.J. *et al.*
- KING, R.F.G.J., HOWDLE, P.D., KELLEHER, J. & LOSOWSKY, M.S. Synthetic detergents in bile-salt-deficient steatorrhoea 273
- KIRSCH, R.E., see Bass, N.M. *et al.*
- KOHN, R., see Menge, H. *et al.*
- KOLETSKY, S., see Garst, J.B. *et al.*
- KONRADS, A., HOFBAUER, K.G., BAUEREISS, K., MOHRING, J. & GROSS, F. Glycerol-induced acute renal failure in Brattleboro rats with hypothalamic diabetes insipidus 133
- KRAMER, H.J., MOCH, T., VON SICHERER, L. & DÜSING, R. Effects of aprotinin on renal function and urinary prostaglandin excretion in conscious rats after acute salt loading 547
- KURTZMAN, N.A. see Julka, N.K., *et al.*
- LAFONTAINE, J.J., NIVEZ, M.P. & ARDAILLOU, R. Hepatic binding sites for angiotensin II in the rat 33
- LAMBERT, L.P., see Davies, M.R. *et al.*
- LANE, D.J., see Garrard, C.S. & Lane, D.J.
- LEDINGHAM, J.G.G., see Henderson, R.G. *et al.*
- LEE, M.R., see Oates, N.S. *et al.*
- LEE, S.P., LIM, T.H. & SCOTT, A.J. Carbohydrate moieties of glycoproteins in human hepatic and gall-bladder bile, gall-bladder mucosa and gall stones 533
- LEES, A.J., see Bender, D.A. *et al.*
- LEME, P.R., see Wajchenberg, B.L. *et al.*
- LEVER, A.F., see Fraser, R. *et al.*
- LIGHT, I.M., see Auld, C.D. *et al.*
- LIM, T.H., see Lee, S.P. *et al.*
- LITTLE, R.A., see Stoner, H.B. *et al.*
- LLAURADO, J.G., see Madden, J.A. *et al.*
- LORENZ-MEYER, H., see Menge, H. *et al.*
- LOSOWSKY, M.S., see King, R.F.G.J. *et al.*
- LUND, B.I., see Sørensen, O.H. *et al.*
- LUND, B.J., see Sørensen, O.H. *et al.*
- LUNEC, J. & DORMANDY, T.L. Fluorescent lipid-peroxidation products in synovial fluid 53
- MA, G.Y., GOVE, C.D., CAWTHORNE, M.A. & HEMS, D.A. Catabolic effects of adrenaline and angiotensin II in the perfused liver of normal and genetically obese (*ob/ob*) mice 493
- MADDEN, J.A., SMITH, G.A. & LLAURADO, J.G. Sodium distribution in mesenteric arterial wall of rats with hypertension induced by drinking saline 471
- MANCINI, M., see Balasubramaniam, S. *et al.*
- MAN IN 'T VELD, A.J., see Derkx *et al.*

- MANN, J.F.E., RASCHER, W., DIETZ, R., SCHÖMIG, A. & GANTEN, D. Effects of an orally active converting-enzyme inhibitor, SQ 14225, on pressor responses to angiotensin administered into the brain ventricles of spontaneously hypertensive rats 585
- MARSHALL, R.D., see Davies, M.R. *et al.*
- MARTIN, G.M. & NESTEL, P. Changes in cholesterol metabolism with dietary cholesterol in children with familial hypercholesterolaemia 377
- MASON, P.A., see Fraser, R. *et al.*
- MATTHEWS, D., see Garst, J.B. *et al.*
- MATTHEWS, D.M., GANDY, R.H., TAYLOR, E. & BURSTON, D. Influx of two dipeptides, glycylsarcosine and L-glutamyl-L-glutamic acid, into hamster jejunum *in vitro* 15
- MATTHEWS, D.M., see also Schedl, H.P. *et al.*
- MAXWELL, D.R., see Szwed, J.J. & Maxwell, D.R.
- MCINTYRE, N., see Day, R.C. *et al.*
- MCCOLL, K.E.L., WHITING, B., MOORE, M.R. & GOLDBERG, A. Correlation of ethanol concentrations in blood and saliva 283
- MEIJER, A.J., see Vahlkamp, T. *et al.*
- MELSEN, F., see Sørensen, O.H. *et al.*
- MENGE, H., KOHN, R., DIETERMANN, K.H., LORENZ-MEYER, H., RIECKEN, E.O. & ROBINSON, J.W.L. Structural and functional alterations in the mucosa of self-filling intestinal blind loops in rats 121
- MEREDITH, P.A., MOORE, M.R. & GOLDBERG, A. Erythrocyte-aminolaevulinic acid dehydratase activity and blood protoporphyrin concentrations as indices of lead exposure and altered haem biosynthesis 61
- MILLEDGE, J.S., see Williams, E.S. *et al.*
- MITROPOULOS, K.A., see Balasubramaniam, S. *et al.*
- MOCH, T., see Kramer, H.J. *et al.*
- MODESTO FILHO, J., see Wajchenberg, B.L. *et al.*
- MOHRING, J., see Konrads, A. *et al.*
- MÖLLER, P., BERGSTRÖM, J., ERIKSSON, S., FÜRST, P. & HELLSTRÖM, K. Effect of aging on free amino acids and electrolytes in leg skeletal muscle 427
- MOODIE, H., see Wilkinson, S.P. *et al.*
- MOORE, M.R., see McColl, K.E.L. *et al.*; see also Meredith, P.A. *et al.*
- MORGAN, D.B. & THOMAS, T.H. Editorial Review: Water balance and hyponatraemia 517
- MORRIS, A.J.R., see Siafakas, N. *et al.*
- MOSEKILDE, L., see Sørensen, O.H. *et al.*
- MULLER, D.P.R., see Atherton, D.J. *et al.*
- MULLER, V., see Hopwood, J.J. *et al.*
- MURRAY-LYON, I.M., see Ellis, W.R. *et al.*
- MUNDAY, K.A., see Richards, H.K. *et al.*
- MYANT, N.B., see Balasubramaniam, S. *et al.*
- NESTEL, P., see Martin, G.M. & Nestel, P.
- NIVEZ, M.P., see Lafontaine, J.J. *et al.*
- NOBLE, A.R., see Richards, H.K. *et al.*
- NORMAN, J.N., see Auld, C.D. *et al.*
- OATES, N.S., BALL, S.G., PERKINS, C.M. & LEE, M.R. Plasma and urine dopamine in man given sodium chloride in the diet 261
- OLDER, M.W.J., see Williams, E.S. *et al.*
- OLIVER, D.O., see Henderson, R.G. *et al.*
- O'REGAN, P., see Constable, A.R. *et al.*
- OSTLUND-LINDQVIST, A.-M. & BOBERG, J. Presence of apolipoprotein-CII in commercially available albumin fractions 99
- OWECZKIN, I.J., see Healy, J.K. *et al.*
- OWEN, J.S., see Day, R.C. *et al.*
- OWENS, C.W.I. & PADOVAN, W. Faecal methylamine in normal and uraemic subjects 509
- PADOVAN, W., see Owens, C.W.I. & Padovan, W.
- PATRICK, J., see Jones, R.B. *et al.*
- PERKINS, C.M., see Oates, N.S. *et al.*
- PETERS, T.J., JONES, P.E., WELLS, G. & COOK, G.G. Sequential enzyme and subcellular fractionation studies on jejunal biopsy specimens from patients with post-infective tropical malabsorption 479
- PETERS, T.J., see also Hopkins, J.M.P. & Peters, T.J.
- PICKERING, T.G., see Gribbin, B. *et al.*
- PIERONI, R.R., see Wajchenberg, B.L. *et al.*
- POLLARD, A.C., see Hopwood, J.J. *et al.*
- POPE, L.M., see Tomas, F.M. *et al.*
- POSTIGLIONE, A., see Balasubramaniam, S. *et al.*
- POSTON, L., see Wilkinson, S.P. *et al.*
- PRIME, F.J., see Siafakas, N. *et al.*
- RASCHER, W., see Mann, J.F.E. *et al.*
- REEVE, J., see Wise, M.E. *et al.*
- REUBEN, S.R., see Hume, L. *et al.*
- RICHARDS, H.K., GRACE, S.A., NOBLE, A.R. & MUNDAY, K.A. Inactive renin in rabbit plasma: effect of haemorrhage 105
- RICKETTS, C., see Cavill, I. *et al.*
- RIECKEN, E.O., see Menge, H. *et al.*
- RIGONI, F., see Deana, R. *et al.*
- ROBERTSON, J.I.S., see Fraser, R. *et al.*
- ROBINSON, J.W.L., see Menge, H. *et al.*
- ROBLERO, J., see Albertini, R. *et al.*
- ROSAS, R., see Albertini, R. *et al.*

- ROSE, G.A., see Constable, A.R. *et al.*
- ROSS, B.D., see Tannen, R.L. & Ross, B.D.
- RUSSELL, R.G.G., see Henderson, R.G. *et al.*
- RYAN, W.J., SUTTON, J.R., TOEWS, C.J. & JONES, N.L. Metabolism of infused L(+) lactate during exercise 139
- SALTIN, B., see Sørensen, O.H. *et al.*
- SAUNDERS, J.S., see Bass, N.M. *et al.*
- SCHALEKAMP, M.A.D.H., see Derkx, *et al.*; see also van Brummelen, P. *et al.*
- SCHEDL, H.P., BURSTON, D., TAYLOR, E. & MATTHEWS, D.M. Kinetics of mucosal influx of glycylsarcosine, glycine and leucine into hamster jejunum and ileum *in vitro* 25
- SCHEDL, H.P., BURSTON, D., TAYLOR, E. & MATTHEWS, D.M. Kinetics of uptake of an amino acid and a dipeptide into hamster jejunum and ileum: the effect of semi-starvation and starvation 487
- SCHNEINMAN, J., see Azar, S. *et al.*
- SCHERER, B. & WEBER, P.C. Time-dependent changes in prostaglandin excretion in response to frusemide in man 77
- SCHMITZ, J. M., see Campbell, W.B. *et al.*
- SCHÖMIG, A., see Mann, J.F.E. *et al.*
- SCOTT, A.J., see Lee, S.P. *et al.*
- SCRATCHARD, T. Editorial Review: Two of the newer 'gastrointestinal hormones' 1
- SEN, S., TARAZI, R.C. & BUMPUS, F.M. Cardiac effects of angiotensin antagonists in normotensive rats 439
- SHELLEY, J.H., see Clamp, J.R. *et al.*
- SIAPAKAS, N., MORRIS, A.J.R. & PRIME, F.J. The rate of change of mouth occlusion pressure during exercise 455
- SIRETT, N.E., THORNTON, S.N. & HUBBARD, J.I. Brain angiotensin II binding and central [Sar¹, Ala⁸] angiotensin responses in normal rats and the New Zealand strain of genetically hypertensive rats 607
- SLATER, J.D.H., see Wilkinson, S.P. *et al.*
- SLEIGHT, P., see Gribbin, B. *et al.*
- SMITH, G.A., see Madden, J.A. *et al.*
- SMITH, I.K., see Wilkinson, S.P. *et al.*
- SMITS, J.F., see Struyker-Boudier, H.A.J. *et al.*
- SØRENSEN, O. H., LUND, B.I., SALTIN, B., LUND, B.J., ANDERSEN, R.B., HJORTH, L., MELSEN, F. & MOSEKILDE, L. Myopathy in bone loss of ageing: improvement by treatment with 1 α -hydroxycholecalciferol and calcium 157
- STERN, L.M., see Ballard, F.J. *et al.*
- STEWART, C., see Al-Khader, A.A. *et al.*
- STONER, H.B., FRAYN, K.N., BARTON, R.N., THRELFALL, C.J. & LITTLE, R.A. The relationships between plasma substrates and hormones and the severity of injury in 277 recently injured patients 563
- STRUYKER-BOUDIER, H.A.J., SMITS, J.F. & VAN ESSEN, H. The role of the baroreceptor reflex in the cardiovascular effects of propranolol in the conscious spontaneously hypertensive rat 163
- SUTTON, J.R., see Ryan, W.J. *et al.*
- SWALES, J.D. Editorial Review: Arterial wall or plasma renin in hypertension? 293
- SWINDLEHURST, C., see Yudkin, J.S. *et al.*
- SZWED, J.J. & MAXWELL, D.R. Diuretics, hepatic and thoracic duct lymph flows in the dog 211
- TANNEN, R.L. & ROSS, B.D. Ammoniogenesis by the isolated perfused rat kidney: the critical role of urinary acidification 353
- TARAZI, R.C., see Sen, S. *et al.*
- TAYLOR, E., see Matthews, D.M. *et al.*; see also Schedl, H.P. *et al.*
- TESCH, P., see Juhlin-Dannfelt, A. *et al.*
- THOMAS, T.H., see Morgan, D.B.
- THOMSON, N.S. The effect of different pharmacological agents on respiratory reflexes in normal and asthmatic subjects 235
- THORNTON, S.N., see Sirett, N.E. *et al.*
- THRELFALL, C.J., see Stoner, H.B. *et al.*
- THURSTON, H., see Burden, A.C. & Thurston, H.
- TOBIAN, L., see Azar, S. *et al.*
- TOEWS, C.J., see Ryan, W.J. *et al.*
- TOMAS, F.M., BALLARD, F.J. & POPE, L.M. Age-dependent changes in the rate of myofibrillar protein degradation in humans as assessed by 3-methylhistidine and creatinine excretion 341
- TOMAS, F.M., see also Ballard, F.J. *et al.*
- TOWNSEND, Y. & CRANSTON, W.I. Sites of clearance of leucocyte pyrogen in the rabbit 265
- TUFF, S.A., see Bass, N.M. *et al.*
- VAHLKAMP, T., MEIJER, A.J., WILMS, J. & CHAMULEAU, R.A.F.M. Inhibition of mitochondrial electron transfer in rats by ethanethiol and methanethiol 147
- VAN BRUMMELEN, P., WOERLEE, M. & SCHALEKAMP, M.A.D.H. Long-term versus short-term effects of hydrochlorothiazide on renal haemodynamics in essential hypertension 463

- VAN ESSEN, H., see Struyker-Boudier, H.A.J. *et al.*
 VEALL, N., see Wise, M.E. *et al.*
 VERHOEVEN, R.P., see Derkx, F.H.M. *et al.*
 VON SICHERER, L., see Kramer, H.J. *et al.*
- WAGSTAFF, M., see Worwood, M. *et al.*
 WAJCHENBERG, B.L., LEME, P.R., FERREIRA, M.N.L., MODESTO FILHO, J., PIERONI, R.R. & BERMAN, M. Analysis of ⁴⁷Ca kinetics in normal subjects by means of a compartmental model with a non-exchangeable plasma calcium fraction 523
 WALTON, J. & GRAY, T.K. Absorption of inorganic phosphate in the human small intestine 407
 WARD, M.P., see Williams, E.S. *et al.*
 WEBER, P.C., see Scherer, B. & Weber, P.C.
 WELCH, S.G., see Yudkin, J.S. *et al.*
 WELLS, G., see Peters, T.J. *et al.*
 WENTING, G.J., see Derkx, F.H.M. *et al.*
 WHITING, B., see McColl, K.E.L. *et al.*
 WILES, C.M., YOUNG, A., JONES, D.A. & EDWARDS, R.H.T. Relaxation rate of constituent muscle-fibre types in human quadriceps 47
 WILKINSON, S.P., JOWETT, T.P., SLATER, J.D.H., ARROYO, V., MOODIE, H. & WILLIAMS, R. Renal sodium retention in cirrhosis: relation to aldosterone and nephron site 169
 WILKINSON, S.P., SMITH, I.K., MOODIE, H., POSTON, L. & WILLIAMS, R. Studies on mineralocorticoid 'escape' in cirrhosis 401
 WILMS, J., see Vahlkamp, T. *et al.*
 WILLIAMS, E.S., WARD, M.P., MILLEDGE, J.S., WITHEY, W.R., OLDER, M.W.J. & FORSLING, M.L. Effect of the exercise of seven consecutive days hill-walking on fluid homeostasis 305
 WILLIAMS, R., see Wilkinson, S.P. *et al.*
 WISE, M.E., REEVE, J., VEALL, N. & WOOTTON, R. Correspondence section: Fitting and interpreting dynamic tracer data 513
 WISENBAUGH, P.E., see Garst, J.B. *et al.*
 WITHEY, W.R., see Williams, E.S. *et al.*
 WOERLEE, M. see Van Brummelen, P. *et al.*
 WOODS, C.G., see Henderson, R.G. *et al.*
 WOOTTON, R. see Wise, M.E. *et al.*
 WORWOOD, M., CRAGG, S.J., WAGSTAFF, M. & JACOBS, A. Binding of human serum ferritin to concanavalin A 83
 YOUNG, A., see Wiles, C.M. *et al.*
 YUDKIN, J.S., BOUCHER, B.J., FRANCE, M.W., WELCH, S.G. & SWINDEHURST, C. The relationship between concentrations of glycosylated haemoglobins and of serum high-density-lipoprotein cholesterol in diabetic patients 269
 ZIEGLER, T., see Holland, O.B. *et al.*

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
 amino acids 25-31
 competition 15-23
 dipeptides 15-23, 487-492
 fat 273-281
 glucose 243-249
 iron 179-188
 kinetics 15-23, 487-492
 phosphate 407-412
 starvation 487-492
 water 243-249
- Absorption kinetics, jejunal 15-23, 487-492
- Acetoacetate, succinyl-coenzyme A 251-254
- Acid-base changes, leucocytes 385-388
- Acrodermatitis enteropathica 505-507
- Acyl-coenzyme A-cholesterol acyltransferase, liver 373-375
- Adrenaline, catabolic effect in perfused liver 493-499
- Adrenocorticotrophic hormone 389-399*
- β -Adrenoreceptor, kidney renin activation 115-120
- Age
 muscle amino acids and electrolytes 427-432
 rate of myofibrillar protein degradation 341-346
- Airway conductance, pharmacological aerosols 235-241
- Airway obstruction, breathing pattern 215-221
- Albumin, serum, bovine, apolipoprotein-CII 99-100
- Aldosterone
 angiotensin 325-333
 control of secretion 389-399*
 prolactin 381-383
 sodium retention in cirrhosis 169-177
- Amino acids
 absorption 487-492
 injury and plasma concentration 563-573
 jejunal absorption *in vitro* 25-31
 muscle and ageing 427-432
- p*-Aminobenzoic acid metabolism in uraemic liver 9-14
- p*-Aminobenzoylglycine production from uraemic liver 9-14
- p*-Aminohippuric acid production from uraemic liver 9-14
- δ -Aminolaevulinate dehydratase, erythrocyte haem biosynthesis 61-69
 lead exposure 61-69
- δ -Aminolaevulinate synthase, erythrocyte haem biosynthesis 61-69
 lead exposure 61-69
- Ammonia, effect on liver regeneration 95-97
- Amphotericin, distal acidification 555-562
- Angiotensin, converting enzyme inhibitor SQ 14225 on brain binding 585-589
- Angiotensin I converting enzyme inhibitor, renal function 365-371
- Angiotensin II
 aldosterone regulation 389-399*
 analogues and sodium depletion 325-333
 antagonists 439-443, 607-611
 brain ventricles 607-611
 carotid artery perfusion 445-453
 catabolism, perfused liver 493-499
 hypertension 293-298*
 liver binding sites 33-40
 sodium depletion 325-333
- Angiotensin III, sodium depletion 325-333
- Angiotensinases
 inhibitors 33-40
 liver 33-40
- Apolipoprotein-CII in albumin fractions 99-100
- Aprotinin, renal function and prostaglandin excretion 547-553
- Arterial pressure
 angiotensin 325-333
 angiotensin antagonists 439-443
 hydrochlorothiazide 463-469
 slow-twitch muscle fibres 335-340
- Artery
 carotid, perfusion 445-453
 distensibility 413-417
 mesenteric, sodium 471-478
 renin in wall 41-46, 293-298*

- Artery (*continued*)
 smooth muscle, angiotensin 445–453
 sodium in wall 471–478
- Asthma, bronchial responses to pharmacological aerosols 235–241
- Auto-analyser methods 445–453
- Autonomic blockade, heart rate response to sustained hand grip 287–291
- L-Asparaginase, mouse Gardner lymphoma 6C3HED sensitivity 539–545
- Asparagine synthetase, mouse Gardner lymphoma 6C3HED 539–545
- L-Asparaginyl-tRNA synthetase, mouse Gardner lymphoma 6C3HED 539–545
- Baroreceptor reflex, propranolol 163–167
- Benserazide, niacin depletion 89–93
- Bile
 acids, intestinal mucosa 121–131
 salts deficiency steatorrhea, synthetic detergents therapy 273–281
- Binding sites, angiotensin II in liver 33–40
- Biomedical engineering 471–478
- Blood and saliva ethanol concentrations 283–286
- Blood flow
 muscle-fibre composition 335–340
 renal distribution 101–104*
- Blood pressure, *see* Arterial pressure, Hypertension
- Blood volume, experimental renal hypertension 227–233
- Bone disease
 osteopenia, senile 157–161
 osteoporosis, haemodialysis 317–324
 renal osteodystrophy 317–324
- Bone loss
 ageing 157–161
 haemodialysis 317–324
 1 α -hydroxycholecalciferol 157–161
- Brain ventricles, angiotensin injection 585–589
- Breathing pattern, chronic airflow obstruction 215–221
- Bromhexine on carbohydrate urinary excretion 193–196
- Brush border, jejunal, tropical malabsorption 479–486
- Bupivacaine aerosol on bronchi 235–241
- Calcium, bone
 ageing 157–161
 haemodialysis 317–324
 kinetic studies 523–532
- Cardiac hypertrophy, angiotensin antagonists 439–443
- Carotid artery perfusion, angiotensin II 445–453
- Catecholamines, cardiac hypertrophy 439–443
- Central inspiratory drive 455–461
- Chlorothiazide on lymph flow 211–214
- Cholelithiasis, bile glycoproteins 533–538
- Cholesterol, high-density lipoprotein, in diabetes mellitus 269–272
- Cholesterol metabolism in familial hypercholesterolaemia 377–383
- Cholesteryl esters in liver 373–375
- Cirrhosis
 9 α -fluorohydrocortisone 401–406
 renal sodium retention 169–177
- Clearance sites for infused leucocyte pyrogen 265–268
- Cohn fraction V, apolipoprotein-CII 99–100
- Colon transposition into jejunum 121–131
- Compartmental analysis, calcium kinetics 523–532
- Compound SQ 14225, converting enzyme inhibitor 585–589
- Computer simulation, sodium distribution 471–478
- Concanavalin A binding of serum ferritin 83–87
- Converting enzyme inhibitor
 angiotensin response 585–589
 renal function 365–371
- Cortisol in injury 563–573
- Creatinine
 faecal excretion in uraemia 509–512
 myofibrillar protein degradation 341–346, 347–352
- Cromoglycate, sodium, on bronchi 235–241
- Deoxycorticosterone acetate hypertension 109–113
- Detergents, synthetic, therapy in steatorrhea 273–281
- Diabetes insipidus, hypothalamic 133–138
- Diabetes mellitus
 autonomic neuropathy 287–291
 carbohydrate excretion 193–196
 glycosylated haemoglobins 269–272
 high-density lipoprotein cholesterol 269–272
 plasma renin activity 255–259
 streptozotocin 251–254
- Diazoxide on kidney activation of renin 115–120
- Diffusion
 intestinal influx of amino acids 25–31
 intestinal influx of dipeptides 15–23
- Dipeptide absorption
 mechanism 15–23
 starvation 487–492
- Distal acidification and amphotericin 555–562

- Diuretics on hepatic and thoracic duct lymph flow 211–214
- DOCA *see* Deoxycorticosterone acetate
- L-Dopa and niacin depletion 89–93
- Dopamine, sodium chloride intake 261–264
- Dynamic tracer data (Correspondence) 513–515
- Electrolytes
 exercise 305–316
 muscle and ageing 427–432
- 'Elemental' diets 243–249
- Enterocyte subcellular distribution of iron during absorption 179–188
- Erythrocytes
 δ -aminolaevulinate dehydratase in lead exposure 61–69
 δ -aminolaevulinate synthase in lead exposure 61–69
- Erythropoiesis, iron exchanges 223–226
- Escape, mineralocorticoid, in cirrhosis 401–406
- Ethacrynic acid on lymph flow 211–214
- Ethanol inhibition of mitochondrial electron transfer 147–156
- Ethanol in blood and saliva 283–286
- Ethanol in injury 563–573
- Exercise
 fluid homeostasis 305–316
 hand, heart rate 287–291
 metabolism of induced L(+)-lactate 139–146
 mouth occlusion pressure 455–461
- Extracellular fluid, aprotinin 547–553
- Faeces, methylamine and creatinine excretion 509–512
- Familial hypercholesterolaemia 377–383
- Fat absorption, synthetic detergents in steatorrhoea 273–281
- Fatty acids
 in injury 563–573
 metabolism, liver, hormones 493–499
- Ferritin, serum, binding to concanavalin A 83–87
- Fibrinolysis in pregnancy-associated renal vascular disease 189–192
- Fluid homeostasis 305–316
- Fluorescence of lipid-peroxidation products in synovial fluid 53–59
- 9 α -Fluorohydrocortisone in cirrhosis 401–406
- 5-Fluorouracil, water absorption 243–249
- Frusemide
 lymph flow 211–214
 prostaglandin excretion 77–81
- Gall bladder, mucosal glycoproteins 533–538
- Gall stones, glycoproteins 533–538
- Gardner lymphoma 6C3HED enzymes 539–545
- Gastric inhibitory polypeptide 1–7*
- Gastrointestinal hormones
 gastric inhibitory polypeptide 1–7*
 vasoactive intestinal polypeptide 1–7*
- Giardia lamblia* infection, tropical malabsorption 479–486
- Giardiasis, tropical malabsorption 479–486
- Glomerular filtration rate
 converting enzyme inhibition 365–371
 hypertension 203–209
- Glomerulosclerosis, urinary carbohydrate excretion 193–196
- Gluconeogenesis and ethanethiol 147–156
- Glucose in injury 563–573
- L-Glutamyl-L-glutamic acid absorption in jejunum *in vitro* 15–23, 25–31
- Glutathione S-transferase 419–426
- Glycerol in injury 563–573
- Glycine absorption in jejunum *in vitro* 25–31
- Glycogen metabolism, liver, hormones 493–499
- Glycoproteins
 biliary, carbohydrate moiety 533–538
 diabetic microangiopathy 193–196
- Glycosylation, serum ferritin binding to concanavalin A 83–87
- Glycylsarcosine absorption in jejunum *in vitro* 15–23, 25–31, 487–492
- Gut hormones *see* Gastrointestinal hormones
- Haem, erythrocyte enzyme activities and biosynthesis of 61–69
- Haemochromatosis, binding of serum ferritin to concanavalin A 83–87
- Haemodialysis bone loss 317–324
- Haemodynamics
 acute renal failure 133–138
 hydrochlorothiazide 463–469
 muscle-fibre composition 335–340
 renal 365–371, 463–469
 vasopressin 133–138
- Haemoglobins, glycosylated, in diabetes mellitus 269–272
- Haemorrhage, plasma renin activity and 105–108
- Hand grip, sustained, heart-rate response 287–291
- Heart rate response to sustained hand grip 287–291
- Heat production after hypothermia 601–606
- Heparin and bone loss 317–324
- Heterozygote detection in mucopolysaccharidosis 591–599

- Hormones
 adrenaline 493–499
 adrenocorticotrophin 389–399*
 aldosterone 169–177, 381–383
 angiotensin 197–202*, 493–499
 catecholamines 197–202*
 cortisol 563–573
 gastrointestinal 1–7*
 glucagon 197–202*
 insulin 197–202*, 563–573
 prolactin 381–383
 vasopressin 133–138, 197–202*, 305–316, 517–522*
- Hurler syndrome 591–599
- Hydrochlorothiazide, renal haemodynamics 463–469
- 3-Hydroxy-3-methylglutaryl-coenzyme A lyase, mitochondrial, inhibition by succinyl-coenzyme A 251–254
- Hypercholesterolaemia 377–383
- Hyperoxaluria, primary, oxalate clearance 299–304
- Hypertension
 aldosterone 389–399*
 arterial distensibility 413–417
 sodium distribution 471–478
- Hypertension, essential
 hydrochlorothiazide 493–469
 kidney activation of renin 115–120
 slow-twitch muscle fibres 335–340
- Hypertension, experimental
 adrenal regeneration 109–113
 deoxycorticosterone acetate 109–113
 kallikrein–kinin system 227–233
 Long–Evans rats 109–113
 mineralocorticoid 109–113
 renal, Goldblatt one-kidney 227–233
 renal, Goldblatt two-kidney 41–46, 227–233
 salt 203–209, 471–478
- Hypertension, renovascular
 diabetes mellitus 255–259
 kallikrein–kinin system 227–233
 kidney activation of renin 115–120
 plasma renin activity 255–259, 293–298*
 pregnancy-associated 189–192
- Hypertension, spontaneous
 angiotensin and converting enzyme inhibitor SQ14225 585–589
 angiotensin antagonist central responses 607–611
 arterial wall renin 41–46
 baroreceptor reflex and propranolol 163–167
 glomerular filtration 203–209
 propranolol 163–167
 renal renin 41–46
- Hyponatraemia and water balance 517–522*
- Hypothalamic diabetes insipidus 133–138
- Hypothermia 601–606
- α -L-Iduronidase, pre- and post-natal assessment 591–599
- Ileum inorganic phosphate absorption 407–412
- Injury Severity Score 563–573
- Insulin in injury 563–573
- Integrated rate equation method for turnover studies 71–76
- Intestine
 amino acids absorption 25–31
 acrodermatitis enteropathica 505–507
 blind loops, self-filling 121–131
 colon transposition 121–131
 dipeptides absorption 15–23, 25–31
 mucosal hyperplasia 121–131
 phosphate absorption 407–412
 stasis 121–131
 subcellular fractionation 179–188, 479–486
 three-dimensional structure 121–131
 transport 15–23, 25–31, 121–131
 tropical malabsorption 479–486
- Ipratropium bromide on bronchi 235–241
- Iron
 enterocyte content 179–188
 intestinal absorption 179–188
 overload and ferritin 83–87
 stores 223–226
 turnover 223–226
- Isoelectric focusing, heterogeneity of serum ferritin 83–87
- Jejunum
 amino acids influx 25–31
 dipeptides influx 15–23, 25–31
 iron absorption 179–188
 phosphate absorption 407–412
 subcellular fractionation 179–188, 479–486
 tropical malabsorption 479–486
 zinc and acrodermatitis enteropathica 505–507
- Juxtamedullary nephron blood flow 101–104*
- Ketone bodies in injury 563–573
- Kidney
 acute failure 133–138
 ammoniogenesis 353–364
 aprotinin and salt-loading 547–553
 arteriolar resistance 203–209
 blood-flow distribution 101–104*
 chronic failure 299–304
 converting enzyme inhibitor 365–371
 dopamine 261–264

- haemodynamics 203–209, 365–371, 463–469
 kininogenase 227–233
 leucocyte pyrogen clearance 265–268
 ligandin excretion 419–426
 renin activation 115–120
 sodium chloride 261–264
 vascular resistance 133–138
- Kidney disease**
 acute failure 133–138
 bone loss 317–324
 necrosis 419–426
 uraemia 509–512
- Kininogen in experimental renal hypertension** 227–233
- Kininogenase, kidney, in experimental renal hypertension** 227–233
- Kinin synthesis and aprotinin** 547–553
- Kynurenine excretion in dopa treatment** 89–93
- Lactate in injury** 563–573
- L(+)-Lactate metabolism, exercise** 139–146
- Lead exposure, erythrocyte enzyme activity and blood protoporphyrin** 61–69
- Lecithin-cholesterol acyltransferase, abnormal lipoproteins in parenchymal liver disease** 575–583
- Leucine absorption in jejunum *in vitro*** 25–31, 487–492
- Leucocyte intracellular sodium, potassium and water** 385–388
- Leucocyte pyrogen, infused, clearance** 265–268
- Ligandin, urinary excretion** 419–426
- Lipid peroxidation products in synovial fluid** 53–59
- Lipoproteins**
 abnormalities in parenchymal liver disease 575–583
 low-density, turnover rate 71–76
- Liver**
 acyl-coenzyme A-cholesterol acyltransferase 373–375
 ammonia and regeneration 95–97
 angiotensin II binding sites 33–40
 hormones and metabolism 197–202*
 lymph flow 211–214
 membrane angiotensin II binding sites 33–40
 regeneration 95–97
- Liver disease**
 cirrhosis 169–177, 401–406
 coma 147–156
 fulminant hepatic failure 95–97
 necrosis 83–87
 obesity 493–499
 parenchymal 575–583
 serum ferritin 83–87
- Liver, perfused**
 adrenaline 493–499
 angiotensin II 493–499
p-aminobenzoic acid metabolism in uraemia 9–14
p-aminobenzoylglycine production in uraemia 9–14
p-aminohippuric acid production in uraemia 9–14
- Lung volume** 215–221
- Lung airflow obstruction, chronic** 215–221
- Lymph flow, effect of diuretics** 211–214
- Lymphoma 6C3HED, Gardner, enzymes** 539–545
- Mannitol on lymph flow** 211–214
- Mercaptans inhibition of mitochondrial electron transfer** 147–156
- Mercuric chloride and urinary ligandin excretion** 419–426
- Metabolic acidosis, ammoniogenesis** 353–364
- Metabolism**
 exercise 139–146
 L(+)-lactate infusion 139–146
 liver 197–202*
 obesity 197–202*
- Metacarpal morphometry** 317–324
- Methanethiol inhibition of mitochondrial electron transfer** 147–156
- Methylamine, faecal excretion in uraemia** 509–512
- 3-Methylhistidine excretion, myofibrillar protein degradation** 341–346, 347–352
- Mineralocorticoid**
 'escape' in cirrhosis 401–406
 hypertension 109–113
- Mitochondria**
 3-hydroxy-3-methylglutaryl-CoA lyase 251–254
 iron 179–188
- Monosaccharides of biliary glycoproteins** 533–538
- Mouth occlusion pressure in exercise** 455–461
- Mucopolysaccharidosis type I, α -L-iduronidase assay** 591–599
- Muscle disease**
 Duchenne muscular dystrophy 347–352
 myopathy in bone loss of ageing 157–161
- Muscle, skeletal**
 amino acids and age 427–432
 bone loss 157–161
 electrolytes and age 427–432
 fibre types 47–52, 157–161, 335–340
 myofibrillar protein degradation 341–346, 347–352

- Muscle, skeletal (*continued*)
 quadriceps, human 47–52
 relaxation rate 47–52
 slow-twitch fibres 335–340
- Muscle, smooth, angiotensin II 445–453
- Myopathy in bone loss of ageing 157–161
- Nephron, sodium reabsorption 169–177
- Nephrotoxin, urinary ligandin excretion after 419–426
- Niacin, Parkinson's disease 89–93
- Non-esterified fatty acids in injury 563–573
- Obesity, hepatic metabolism 197–202, 493–499
- Octanoic acid, effect on liver regeneration 95–97
- Oedema in continuous exercise 305–316
- Osteodystrophy in renal disease 317–324
- Osteopenia, senile 157–161
- Osteoporosis in renal disease 317–324
- Ouabain, carotid artery perfusion 445–453
- Oxalate clearance 299–304
- Oxygen uptake, L(+)-lactate infusion and exercise 139–146
- Parathyroid activity and bone loss 317–324
- Parenchymal liver disease lipoprotein abnormalities 575–583
- Parkinson's disease, niacin depletion 89–93
- Pellagra 89–93
- Peptidase, intestinal, 'elemental' diet and 243–249
- Peptide absorption in jejunum *in vitro* 15–23, 25–31
- Peroxidation, lipid, fluorescent products 53–59
- pH, urine, kidney ammoniogenesis 353–364
- Phenylalanine uptake by jejunal blind loops 121–131
- Phosphate, inorganic, intestinal absorption 407–412
- Plasma renin activity
 diabetes mellitus 255–259
 diazoxide 115–120
 haemorrhage 105–108
 hypertension 41–46
 propranolol 115–120
- Plasma volume, hydrochlorothiazide 463–469
- Platelet factor 3 survival in pregnancy-associated hypertension 189–192
- Potassium
 aldosterone 389–399*
 angiotensin and carotid artery perfusion 445–453
 intracellular, leucocyte 385–388
- Pregnancy disease of renal microcirculation 189–192
- Prenatal diagnosis 591–599
- Prolactin in primary aldosteronism 381–383
- Propranolol
 baroreceptor reflex 163–167
 kidney activation of renin 115–120
- Prostaglandins
 aprotinin and urinary excretion 547–553
 bronchial response 235–241
 frusemide and urinary excretion 77–81
 urinary excretion 77–81, 547–553
- Protein, muscle, degradation 341–346, 347–352
- Protoporphyrin, blood
 haem biosynthesis 61–69
 lead exposure 61–69
- Pulse-wave velocity 413–417
- Pyrogen, leucocyte, clearance 265–268
- Quadriceps
 amino acids and age 427–432
 electrolytes and age 427–432
 relaxation rate 47–52
- Radioactive tracer methods *see also* under individual compounds
 calcium kinetics 523–532
 data (Correspondence) 513–515
 α -L-iduronidase activity 591–599
 iron absorption 179–188
 lipoprotein turnover 71–76
 oxalate clearance 299–304
 renal blood flow 101–104*
 sodium distribution 471–478
- Radioactivity, whole-body counter 71–76
- Radioimmunoassay of urinary ligandin excretion 419–426
- Relaxation rate, quadriceps muscle 47–52
- Renal hypertension *see* Hypertension, renovascular
- Renin
 arterial wall 41–46, 293–298*
 hydrochlorothiazide 463–469
 plasma 41–46, 105–108, 293–298*
 renal 41–46
- Renin-angiotensin system in acute renal failure 133–138
- Respiratory exchange ratio and infused L(+)-lactate during exercise 139–146
- Respiratory reflexes, pharmacological aerosols 235–241
- Saliva and blood ethanol concentration 283–286
- Salt loading, aprotinin and renal function 547–553
- Scheie syndrome 591–599

- Shivering after hypothermia 601–606
'Sick cell' hyponatraemia 517–522*
Skeletal muscle *see* Muscle
Smooth muscle *see* Muscle
Sodium
 aldosterone 169–177, 381–383
 angiotensin, carotid artery perfusion 445–453
 angiotensin receptors 293–298*
 aprotinin 547–553
 converting enzyme inhibition 365–371
 depletion and angiotensin 325–333
 distribution in artery wall 471–478
 dopamine 261–264
 9 α -fluorohydrocortisone 401–406
 leucocyte 385–388
 prolactin 381–383
 renal retention, cirrhosis 169–177
 water balance 517–522*
Starvation, intestinal absorption 487–492
Steatorrhoea, synthetic detergents therapy 273–281
Subcellular fractionation, enterocytes 179–188, 479–486
Succinyl-coenzyme A, mitochondrial 3-hydroxy-3-methylglutaryl-coenzyme A lyase inhibition 251–254
Synovial fluid, fluorescent lipid peroxidation products in 53–59

Transcapillary movements with diuretics 211–214
Transport, intestinal
 amino acids 25–31, 121–131
 dipeptides 15–23
 iron 179–188

Trauma, plasma substrates and hormones 563–573
Tropical malabsorption 479–486

Uraemia
 liver metabolism of *p*-aminobenzoic acid 9–14
 liver metabolism of *p*-aminobenzoylglycine 9–14
Urea, plasma experimental renal hypertension 227–233
Ureogenesis and ethanethiol 147–156
Urine
 ligandin radioimmunoassay 419–426
 PCO₂ 555–562
 pH and kidney ammoniogenesis 353–364

Vanillylmandelic acid, urinary, hydrochlorothiazide 463–469
Vascular resistance and muscle fibre composition 335–340
Vasoactive intestinal polypeptide 1–7*
Vasopressin
 acute renal failure 133–138
 exercise 305–316
 fluid homeostasis 305–316
 hyponatraemia and water balance 517–522*
Vitamin B₆ deficiency in dopa treatment 89–93

Water balance and hyponatraemia 517–522*
Water, leucocyte, acid–base changes 385–388
Whole-body radioactivity counter 71–76
Work, metabolism of infused L(+)-lactate 139–146

Zinc absorption, acrodermatitis enteropathica 505–507