

CLINICAL SCIENCE

FOUNDED IN 1908 AS 'HEART' BY SIR THOMAS LEWIS

EDITORIAL BOARD

FOR THE MEDICAL RESEARCH SOCIETY

J. M. LEDINGHAM, *Chairman*

R. D. COHEN, W. I. CRANSTON, G. CUMMING, D. M. MATTHEWS,
J. I. S. ROBERTSON, J. S. ROBSON, S. J. G. SEMPLE

FOR THE BIOCHEMICAL SOCIETY

R. HOFFENBERG, *Deputy Chairman*

C. N. HALES, R. G. HUNTSMAN, G. H. LATHE, J. LIDDELL,
K. L. MANCHESTER, J. A. OWEN, W. H. TAYLOR, R. W. E. WATTS

VOLUME 39, 1970

**BLACKWELL SCIENTIFIC PUBLICATIONS
OXFORD AND EDINBURGH**

1970

PUBLISHED FOR
THE MEDICAL RESEARCH SOCIETY AND THE BIOCHEMICAL SOCIETY
BY
BLACKWELL SCIENTIFIC PUBLICATIONS LTD
5 ALFRED STREET, OXFORD

PRINTED IN GREAT BRITAIN BY ALDEN & MOWBRAY LTD AT THE ALDEN PRESS, OXFORD

Volume 39

AUTHOR INDEX

- ADAMS, J. F., TANKEL, H. I. and MACEWAN, FIONA. Estimation of the total body vitamin B₁₂ in the live subject 107
- ALARCÓN-SEGOVIA, D. and FISHBEIN, EUGENIA. Demography of serum immunoglobulins: difference in IgG and IgM levels in two normal Mexican adult populations 467
- ALLEYNE, G. A. O., FRASER, H. S. and BESTERMAN, H. S. Some effects of metabolic acidosis on carbohydrate metabolism in the rat 375
- AQUINO, C. DOS S., see Oakley, N. W. *et al.*
- ASTIN, T. W. Dynamic lung compliance and the effect of oxygen breathing in patients with chronic bronchitis 497
- AUCHINCLOSS, J. H., JR, GILBERT, R. and BAULE, G. H. Unsteady state measurement of oxygen transfer in patients with rheumatic heart disease 21
- BÁNOS, Cs., see Radó, J. P. *et al.*
- BARRACLOUGH, M. A. and JONES, N. F. The effect of vasopressin on the reabsorption of sodium, potassium and urea by the renal tubules in man 517
—see also Eisinger, A. J. *et al.*; see also Guignard, J-P. *et al.*
- BARRATT, T. M. and CRAWFORD, RITA. Lysozyme excretion as a measure of renal tubular dysfunction in children 457
- BARTTER, F. C., see Wills, M. R. *et al.*
- BAULE, G. H., see Auchincloss, J. H. *et al.*
- BEILIN, L. J., WADE, D. N., HONOUR, A. J. and COLE, T. J. Vascular hyper-reactivity with sodium loading and with desoxycorticosterone induced hypertension in the rat 793
- BENNETT, N. B. and OGSTON, D. Inhibitors of the fibrinolytic enzyme system in renal disease 549
- BERRY, H. E., COLLIER, J. G. and VANE, J. R. The generation of kinins in the blood of dogs during hypotension due to haemorrhage 349
- BESTERMAN, H. S., see Alleyne, G. A. O. *et al.*
- BIANCHI, G., CAMPOLO, L., VEGETO, A., PIETRA, V. and PIAZZA, U. The value of plasma renin concentration *per se*, and in relation to plasma and extracellular fluid volume in diagnosis and prognosis of human renovascular hypertension 559
- BODDY, K., LAWSON, D. H., LINTON, A. L. and WILL, G. Iron metabolism in patients with chronic renal failure 115
- BONORRIS, G., see Katz, J. *et al.*
- BORBÉLY, L., see Radó, J. P. *et al.*
- BROWN, J. J., see Chinn, R. H. *et al.*
- BRYCESON, A. D. M., see Warrell, D. A. *et al.*
- BURTON, J. L. The physical properties of sebum in acne vulgaris 757

- CAMPOLO, L., see Bianchi, G. *et al.*
- CHAZAN, J. A., see Cohen, J. J. *et al.*
- CHINN, R. H., BROWN, J. J., FRASER, R., HERON, SHEILA M., LEVER, A. F., MURCHISON, LILLIAN and ROBERTSON, J. I. S. The natriuresis of fasting: relationship to changes in plasma renin and plasma aldosterone concentrations 437
- CHRISTENSEN, N. J. A reversible vascular abnormality associated with diabetic ketosis 539
- CLARKSON, E. M., DURRANT, C., PHILLIPS, M. E., GOWER, P. E., JEWKES, R. F. and DE WARDENER, H. E. The effect of a high intake of calcium and phosphate in normal subjects and patients with chronic renal failure 693
- CLELAND, J. F., see Petrie, J. J. B. *et al.*
- COHEN, J. J., CHAZAN, J. A. and GARELLA, S. The interrelationship between ECF volume and ECF anion composition in the regulation of sodium excretion 475
- COLE, T. J., see Beilin, L. J. *et al.*
- COLES, G. A., PETERS, D. K. and HENRY JONES, J. Albumin metabolism in chronic renal failure 423
- COLLIER, J. G., see Berry, H. E. *et al.*
- CRAMP, D. G., see Doar, J. W. H. *et al.*; see also Doar, J. W. H. and Cramp, D. G.
- CRAWFORD, RITA, see Barratt, T. M. and Crawford, Rita
- DAVIES, C. T. M., TUXWORTH, W. and YOUNG, J. M. Physiological effects of repeated exercise 247
—see also Godfrey, S. and Davies, C. T. M.
- DAVIS, R. H., MORGAN, D. B. and RIVLIN, ROSA S. The excretion of calcium in the urine and its relation to calcium intake, sex and age 1
- DENISON, D. M., see Raimondi, A. C. *et al.*
- DE WARDENER, H. E., see Clarkson, E. M. *et al.*
- DICKINSON, C. J., see Ferrario, C. M. *et al.*
- DIXON, S. R., MCKEAN, W. I., PRYOR, J. E. and IRVINE, R. O. H. Changes in acid-base balance during peritoneal dialysis with fluid containing lactate ions 51
- DLUHY, R. G., see Williams, G. H. *et al.*
- DOAR, J. W. H. and CRAMP, D. G. The effects of obesity and maturity-onset diabetes mellitus on L(+) lactic acid metabolism 271
- DOAR, J. W. H., CRAMP, D. G., MAW, D. S. J., SEED, M. and WYNN, V. Blood pyruvate and lactate levels during oral and intravenous glucose tolerance tests in diabetes mellitus 259
- DOWDLE, E., GOLDSWAIN, P., SPONG, NORMA and EALES, L. The pattern of porphyrin isomer accumulation and excretion in symptomatic porphyria 147
—see also Goldswain, P. *et al.*
- DURRANT, C., see Clarkson, E. M. *et al.*
- EDWARDS, K. D. G., see Györy, A. Z. *et al.*
- EDWARDS, R. H. T., see Raimondi, A. C. *et al.*
- EALES, L., see Dowdle, E. *et al.*; see also Goldswain, P. *et al.*
- EISINGER, A. J., JONES, N. F., BARRACLOUGH, M. A. and MCSWINEY, R. R. Effect of vasopressin on the renal excretion of phosphate in man 687

Author Index

v

- EVENS, R. G., see Wills, M. R. *et al.*
- FERRARIO, C. M., DICKINSON, C. J. and McCUBBIN, J. W. Central vasomotor stimulation by angiotensin 239
- FISCHER, J., see Radó, J. P. *et al.*
- FISHBEIN, EUGENIA, see Alarcón-Segovia, D. and Fishbein, Eugenia
- FOSTER, K. G., GINSBURG, JEAN and WEINER, J. S. Role of circulating catecholamines in human eccrine sweat gland control 823
- FRASER, H. S., see Alleyne, G. A. O. *et al.*
- FRASER, R., see Chinn, R. H. *et al.*
- GARDHAM, J. R. C. and HOBBSLEY, M. The electrolytes of alkaline human gastric juice 77
- GARELLA, S., see Cohen, J. J. *et al.*
- GILBERT, R., see Auchincloss, J. H. *et al.*
- GILMORE, J. P., see Potkay, S. and Gilmore, J. P.
- GINSBURG, JEAN, see Foster, K. G. *et al.*
- GODFREY, S. and DAVIES, C. T. M. Estimates of arterial PCO_2 and their effect on the calculated values of cardiac output and dead space on exercise 529
- GOLDEN, SYBIL, see Katz, J. *et al.*
- GOLDSWAIN, P., DOWDLE, E., SPONG, NORMA and EALES, L. The incorporation of [4- ^{14}C]δ-aminolaevulinic acid into urinary porphyrins in symptomatic porphyria 159
—see also Dowdle, E. *et al.*
- GOODWIN, F. J., LEDINGHAM, J. G. G. and LARAGH, J. H. The effects of prolonged administration of vasopressin and oxytocin on renin, aldosterone and sodium balance in normal man 641
- GOWER, P. E., see Clarkson, E. M. *et al.*
- GRAHAME, R. A method for measuring human skin elasticity *in vivo* with observations on the effects of age, sex and pregnancy 223
- GUIGNARD, J-P., JONES, N. F. and BARRACLOUGH, M. A. Effect of brief hypercalcaemia on free water reabsorption during solute diuresis: evidence for impairment of sodium transport in Henle's loop 337
- GYÖRY, A. Z., EDWARDS, K. D. G., ROBINSON, J. and PALMER, A. A. The relative importance of urinary pH and urinary content of citrate, magnesium and calcium in the production of nephrocalcinosis by diet and acetazolamide in the rat 605
- HENRY JONES, J., see Coles, G. A. *et al.*
- HERON, SHEILA M., see Chinn, R. H. *et al.*
- HOBBSLEY, M. and SILEN, W. The relation between the rate of production of gastric juice and its electrolyte concentrations 61
—see also Gardham, J. R. C. and Hobsley, M.
- HONOUR, A. J., see Beilin, L. J. *et al.*
- HOWELL, J. B. L., see Lane, D. J. *et al.*
- IRVINE, R. O. H., see Dixon, S. R. *et al.*
- JACOBS, H. S., see Oakley, N. W. *et al.*

- JAMES, W. P. T. Sugar absorption and intestinal motility in children when malnourished and after treatment 305
- JEWKES, R. F., see Clarkson, E. M. *et al.*
- JOHNY, K. V., WORTHLEY, B. W., LAWRENCE, J. R. and O'HALLORAN, M. W. A whole body counter for serial studies of total body potassium 319
- JONES, N. F., see Barraclough, M. A. and Jones, N. F.; see also Eisinger, A. J. *et al.*; see also Guignard, J-P. *et al.*
- JOY, M. D. and LOWE, R. D. The site of cardiovascular action of angiotensin II in the brain 327
- KAMBUROFF, P. L., see Kemm, J. R. and Kamburoff, P. L.
- KAPPAGODA, C. T., LINDEN, R. J. and SNOW, H. M. An approach to the problems of acid-base balance 169
- KATZ, J., BONORRIS, G., GOLDEN, SYBIL and SELLERS, A. L. Extravascular albumin mass and exchange in rat tissues 705
- KATZ, J., BONNORIS, G. and SELLERS, A. L. Extravascular albumin in human tissues 725
- KEMM, J. R. and KAMBUROFF, P. L. Effort and the forced expiratory volume in one second (FEV₁) 747
- KENDALL-TAYLOR, PAT and MUNRO, D. S. The influence of adrenergic receptor blocking agents on the mouse thyroid 781
- KING, R. G. and STANBURY, S. W. Magnesium metabolism in primary hyperparathyroidism 281
- KING, T. K. C. and YU, D. Factors determining the ventilatory response to carbon dioxide in chronic obstructive airways disease 653
- KOLSAKER, L., see Ofstad, J. and Kolsaker, L.
- KONTOS, H. A., RICHARDSON, D. W., RAPER, A. J. and PATTERSON, J. L., JR. Contribution of hypercapnia and hypoxia to the vascular response to ischaemia 203
- LANE, D. J., HOWELL, J. B. L. and STRETTON, T. B. The effect of dichlorphenamide on blood and cerebrospinal fluid acid-base state in chronic ventilatory failure 391
- LARAGH, J. H., see Goodwin, F. J. *et al.*
- LAWRENCE, J. R., see Johnny, K. V. *et al.*
- LAWSON, D. H., see Boddy, K. *et al.*
- LEAVER, D. G., see Raimondi, A. C. *et al.*
- LEDINGHAM, J. G. G., see Goodwin, F. J. *et al.*
- LEVER, A. F., see Chinn, R. H. *et al.*
- LINDEN, R. J., see Kappagoda, C. T. *et al.*
- LINTON, A. L., see Boddy, K. *et al.*
- LOWE, R. D., see Joy, M. D. and Lowe, R. D.
- MACEWAN, FIONA, see Adams, J. F. *et al.*
- MACLEAN, PAMELA R., see Petrie, J. J. B. *et al.*
- MACMAHON, M. T., see Peters, T. J. and MacMahon, M. T.
- MAHLER, Y. and ROGEL, S. Interrelation between restitution time-constant and alternating myocardial contractility in dogs 625

Author Index

vii

- MAW, D. S. J., see Doar, J. W. H. *et al.*
- MCCUBBIN, J. W., see Ferrario, C. M. *et al.*
- McKEAN, W. I., see Dixon, S. R. *et al.*
- McSWINEY, R. R., see Eisinger, A. J. *et al.*
- MELLANDER, S. and NORDENFELT, I. Comparative effects of dihydroergotamine and noradrenaline on resistance, exchange and capacitance functions in the peripheral circulation 183
- MILLWARD, D. J. Protein turnover in skeletal muscle. I. The measurement of rates of synthesis and catabolism of skeletal muscle protein using [¹⁴C]Na₂CO₃ to label protein 577
- MILLWARD, D. J. Protein turnover in skeletal muscle. II. The effect of starvation and a protein-free diet on the synthesis and catabolism of skeletal muscle proteins in comparison to liver 591
- MORGAN, D. B., see Davis, R. H. *et al.*
- MOULTON, A. and SILVER, J. R. Chest movements in patients with traumatic injuries of the cervical cord 407
- MUNRO, D. S., see Kendall-Taylor, Pat and Munro, D. S.
- MURCHISON, LILLIAN, see Chinn, R. H. *et al.*
- NABARRO, J. D. N., see Oakley, N. W. *et al.*
- NORDENFELT, I., see Mellander, S. and Nordenfelt, I.
- OAKLEY, N. W., JACOBS, H. S., TURNER, R. C., WILLIAMS, J., AQUINO, C. DOS S. and NABARRO, J. D. N. The effect of hypoglycaemia on oral glucose tolerance in normal subjects and patients with pituitary and adrenal disorders 663
- OFSTAD, J. and KOLSAKER, L. Renal function studies in renal carcinoma 367
- OGSTON, D., see Bennett, N. B. and Ogston, D.
- O'HALLORAN, M. W., see Johny, K. V. *et al.*
- PAK, C. Y. C., see Wills, M. R. *et al.*
- PALMER, A. A., see Györy, A. Z. *et al.*
- PARRY, E. H. O., see Warrell, D. A. *et al.*
- PATTERSON, J. L., JR, see Kontos, H. A. *et al.*
- PERINE, P. L., see Warrell, D. A. *et al.*
- PETERS, D. K., see Coles, G. A. *et al.*
- PETERS, T. J. and MACMAHON, M. T. The absorption of glycine and glycine oligopeptides by the rat 811
- PETRIE, J. J. B., CLELAND, J. F., MACLEAN, PAMELA R. and ROBSON, J. S. Glomerular permeability during proteinuria induced by plasma infusion 383
- PHILLIPS, M. E., see Clarkson, E. M. *et al.*
- PIAZZA, U., see Bianchi, G. *et al.*
- PIETRA, V., see Bianchi, G. *et al.*
- POPE, HELEN M., see Warrell, D. A. *et al.*
- POTKAY, S. and GILMORE, J. P. Renal responses to vena caval and portal venous infusions of sodium chloride in unanaesthetized dogs 13

PRYOR, J. E., see Dixon, S. R. *et al.*

RADÓ, J. P., SZENDE, L., BORBÉLY, L., BÁNOS, Cs., TAKÓ, J. and FISCHER, J. Different effects of frusemide administered during hypertonic saline infusion in healthy subjects and hypertensive patients 833

RAIMONDI, A. C., EDWARDS, R. H. T., DENISON, D. M., LEAVER, D. G., SPENCER, R. G. and SIDDORN, J. A. Exercise tolerance breathing a low density gas mixture, 35% oxygen and air in patients with chronic obstructive bronchitis 675

RAPER, A. J., see Kontos, H. A. *et al.*

RICHARDSON, D. W., see Kontos, H. A. *et al.*

RIVLIN, ROSA S., see Davis, R. H. *et al.*

ROBERTSON, J. I. S., see Chinn, R. H. *et al.*

ROBINSON, J., see Györy, A. Z. *et al.*

ROBSON, J. S., see Petrie, J. J. B. *et al.*

ROGEL, S., see Mahler, Y. and Rogel, S.

SEED, M., see Doar, J. W. H. *et al.*

SELLERS, A. L., see Katz, J. *et al.*

SIDDORN, J. A., see Raimondi, A. C. *et al.*

SILEN, W., see Hobsley, M. and Silen, W.

SILVER, J. R., see Moulton, A. and Silver, J. R.

SIMMONS, D. H., see Wilson, A. F. and Simmons, D. H.

SNOW, H. M., see Kappagoda, C. T. *et al.*

SPENCER, R. G., see Raimondi, A. C. *et al.*

SPONG, NORMA, see Dowdle, E. *et al.*; see also Goldswain, P. *et al.*

STACEY, T. E., see Stamp, T. C. B. and Stacey, T. E.

STAMP, T. C. B. and STACEY, T. E. Evaluation of theoretical renal phosphorus threshold as an index of renal phosphorus handling 505

STANBURY, S. W., see King, R. G. and Stanbury, S. W.

STRETTON, T. B., see Lane, D. J. *et al.*

SWALES, J. D., TANGE, J. D. and WRONG, O. M. The influence of pH, bicarbonate and hypertonicity on the absorption of ammonia from the rat intestine 769

SZENDE, L., see Radó, J. P. *et al.*

TAKÓ, J., see Radó, J. P. *et al.*

TANGE, J. D., see Swales, J. D. *et al.*

TANKEL, H. I., see Adams, J. F. *et al.*

TRAP-JENSEN, J. Increased capillary permeability to ¹³¹Iodine and [⁵¹Cr]EDTA in the exercising forearm of long-term diabetics 39

TURNER, R. C., see Oakley, N. W. *et al.*

TUXWORTH, W., see Davies, C. T. M. *et al.*

UNDERWOOD, R. H., see Williams, G. H. *et al.*

Author Index

ix

- VANE, J. R., see Berry, H. E. *et al.*
- VEGETO, A., see Bianchi, G. *et al.*
- WADE, D. N., see Beilin, L. J. *et al.*
- WARRELL, D. A., POPE, HELEN M., PARRY, E. H. O., PERINE, P. L. and BRYCESON, A. D. M. Cardiorespiratory disturbances associated with infective fever in man: studies of Ethiopian louse-borne relapsing fever 123
- WEINER, J. S., see Foster, K. G. *et al.*
- WILL, G., see Boddy, K. *et al.*
- WILLIAMS, G. H., DLUHY, R. G. and UNDERWOOD, R. H. The relationship of dietary potassium intake to the aldosterone stimulating properties of ACTH 489
- WILLIAMS, J., see Oakley, N. W. *et al.*
- WILLS, M. R., WORSTMAN, J., PAK, C. Y. C. and BARTTER, F. C. The role of parathyroid hormone in the gastro-intestinal absorption of calcium 89
- WILLS, M. R., ZISMAN, E., WORTSMAN, J., EVANS, R. G., PAK, C. Y. C. and BARTTER, F. C. The measurement of intestinal calcium absorption by external radioisotope counting: application to study of nephrolithiasis 95
- WILSON, A. F. and SIMMONS, D. H. Relationships between potassium, chloride, intracellular and extracellular pH in dogs 731
- WORTHLEY, B. W., see Johnny, J. V. *et al.*
- WORTSMAN, J., see Wills, M. R. *et al.*
- WRONG, O. M., see Swales, J. D. *et al.*
- WYNN, V., see Doar, J. W. H. *et al.*
- YOUNG, J. M., see Davies, C. T. M. *et al.*
- YU, D., see King, T. K. C. and Yu, D.
- ZISMAN, E., see Wills, M. R. *et al.*

NOTES FOR CONTRIBUTORS

1. All communications should be addressed to the Editor of *Clinical Science*, Dr R. HOFFENBERG, CLINICAL RESEARCH CENTRE, NORTHWICK PARK HOSPITAL WATFORD ROAD, HARROW, MIDDLESEX HA1 3UJ. Contributors must send two complete copies of the text and tables and three copies of the figures (see 12 below) and retain one copy, as the Editor does not accept responsibility for damage or loss of papers submitted.

2. Papers should deal with the field of clinical investigation in the broadest sense. They are accepted subject to the understanding that no substantial part has been, or will be, published elsewhere. This does not refer to abstracts of oral communications which have or are about to be printed in the Proceedings of Societies or of Symposia, but in such cases authors are required to enclose copies of relevant abstracts.

Authors submitting papers of multiple authorship should state in the accompanying letter that all co-authors approve the contents of the paper.

Papers accepted remain the copyright of the journal.

3. Ethics of experimental procedures on human beings: authors are required to indicate in the text of their papers the manner in which they have complied with the recommendations of the pamphlet on human investigations taken from the M.R.C. Report of 1962/63 (*British Medical Journal*, 1964, ii, 178-180).

4. Radiation dosage: manuscripts describing a new or modified radionuclide application in man should contain an estimate of the maximum possible rad dose to the body and to the critical organs.

5. Manuscripts should be typewritten (double space) with wide margins. On a single separate sheet there must be:

(a) Title and short title. (The short title should also appear at the head of each page and should not exceed forty-five characters including spaces.)

(b) Authors' names and initials, but not degrees or appointments. Women authors should use one given name.

(c) Department/s in which the work was done.

(d) The name and postal address of the author to whom correspondence should be addressed. This will appear as a footnote.

The authors' present addresses, if different from the departments in which the work was done, may, if essential, be shown as a footnote.

6. The onus of preparing a paper in the form suitable for sending to press lies in the first place with the author and any need for editorial revision of badly prepared typescripts or diagrams will delay publication. Papers on specialized subjects should be presented so that they are intelligible to the ordinary reader of the journal.

7. Generally, papers should be divided clearly into the following sections: (a) Summary (typed on a separate sheet) about 3% of the length of the paper but not exceeding 250 words; the paragraphs of the Summary should be numbered (contributors are invited to include a translation of the summary of the paper in their native language; if the paper is accepted by *Clinical Science*, this summary will be considered for publication); (b) Introduction; (c) Materials and Methods; (d) Results: the use of both Tables and Figures to illustrate the same results will only rarely be permitted: one or other may be required to be deposited with the Librarian, The Royal Society of Medicine (see para. 10); (e) Discussion; (f) Acknowledgments (including financial support); (g) References: which should be in alphabetical order of (first) authors, in the following form:

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

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

The titles of journals should not be abbreviated. The first and last page numbers should be given.

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) in subsequent quotations.

8. *Clinical Science* uses as standards for spelling the *Concise Oxford Dictionary of Current English* (Oxford: Clarendon Press) and MacNalty's *British Medical Dictionary* (London: Caxton Publishing Co.). Full names of uncommon abbreviations must be given with the first mention; new abbreviations should be coined only for unwieldy names and should not be used at all unless those names occur frequently. In the Title and Summary unusual abbreviations should be identified; in the Introduction and Discussion they should be used sparingly. Abbreviations of units should conform with those given in *British Standards 1967*, e.g.:

gram(s)	g	micron(s)	μm
kilogram(s)	kg	litre(s)	l
milligram(s) (10^{-3} g)	mg	millilitre(s)	ml
microgram(s) (10^{-6} g)	μg	milliequivalent	mEq
nanogram(s) (10^{-9} g)	ng	molar	M
picogram(s) (10^{-12} g)	pg	osmole	osmol
second(s)	s	milliosmole	mosmol
minute(s)	min	arterial oxygen pressure	P_{a,O_2}
hour(s)	h	alveolar carbon dioxide pressure	P_{A,CO_2}
centimetre(s)	cm	millicurie(s)	mCi
millimetre(s)	mm	gravitational acceleration	$\frac{\text{g}}{\%}$
cubic millimetre(s)	mm^3	per cent	$\frac{\%}{\%}$

isotopic mass number places as ^{131}I , [$2\text{-}^{13}\text{C}$]glycine
fractions, ratios and rates as $\frac{\%}{\%}$, ml/min

N.B. The abbreviation for the plural of a unit is the same as that for the singular unless confusion is likely to arise.

Moles: The word 'mol' is used with the meaning of 'gram-molecule'. It must not be abbreviated to 'M'. The submultiples will be printed as 'mmol, μmol '. Molar (M) should be used for mol/l, and molal for mol/kg solvent.

Multiple units (three or more) should be expressed with power factors to avoid ambiguity, e.g. $\text{ml min}^{-1} \text{kg}^{-1}$ not ml/min/kg.

9. *Statistical treatment of results.* It is usually unnecessary to publish the individual results of a number of similar experiments. When the object is to determine the value of a quantity or the statistical characteristics of a population, sufficient information is usually conveyed by the following provided that the distribution is normal: (i) the number of individual experiments; (ii) the mean value; (iii) the standard deviation (SD), the coefficient of variation, or the standard error of the mean (SEM) as may be appropriate. A convenient form for inclusion in a Table is, for example, 263 ml/min (SEM 2.5, $n = 10$), where n is the number of results. Where a significant difference is claimed between the means (or other statistics) of two groups of results, an appropriate test of significance should be used and the nature of the test stated: e.g. in the t -test, the results should be stated as follows: $t = 4.5$, $0.01 < P < 0.05$.

10. Illustrations and tables are expensive to print, their number should be kept to a minimum. Their appropriate position in the paper should be indicated in the margin of the text. In special cases by agreement with the Editor a legend may be added indicating that details, e.g. protocols, tables, statistical analyses, have been deposited with the Librarian at the Royal Society of Medicine, London, W.1, who will issue copies on request at a small charge.

11. Reference to tables should be in Arabic numerals, e.g. Table 3, and tables should include titles which make their meaning clear without reference to the text. Tables should be typed separately from the text.

12. Reference to figures should be in Arabic numerals, e.g. Fig. 3, and should be numbered in order of appearance. Figures should be kept to a minimum and those requiring half-tone blocks should be avoided as far as possible. Those for half-tone blocks should be submitted as glossy prints. In the case of line figures, it is not necessary to submit the original drawing; one copy of each should be a photograph on glossy paper of good quality and approximately *twice* the size to which it will eventually be reduced. A horizontal or square layout is preferred to a vertical one, because a vertical design is wasteful of space, but if figures cannot be conveniently printed side by side, a vertical layout is acceptable. The preferred symbols for experimental points, are \circ , Δ , \square , \bullet , \blacktriangle , \blacksquare . The same symbols must not be used on two curves where the points might be confused. For scatter diagrams, solid symbols are preferred.

A list of captions for the figures should be submitted on a separate sheet and should make interpretation possible without reference to the text.

13. Special terminology. Biochemical nomenclature should conform to that given in the current edition of 'Suggestions and Instructions to Authors' issued by the *Biochemical Journal*. Wherever possible, physiological nomenclature should be in accordance with that given in the current edition of 'Suggestions to Authors' issued by the *Journal of Physiology*.

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

15. When a paper has been accepted for publication, the author will be asked to sign a statement vesting the copyright to the Editorial Board.

16. Twenty-five offprints are supplied free and additional copies may be obtained at terms based on the cost of production which will be given with the proofs. All offprints should be ordered when proofs are returned.