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Tables should be in Arabic numerals, e.g. Fig. 3, and they should be numbered in order of appearance. In general, the same data should not be presented in both a Figure and a Table.

Figures, with captions attached, should be supplied as original drawings or matt photographs together with photocopies. All Figures should have their number and the authors' names written in pencil on the back; the top of the Figure should be indicated with a pencilled arrow. Acceptable symbols for experimental points are ●, ▲, ■, ○, △, □. The symbols × or + must be avoided. The same symbols must not be used for two curves where the points might be confused. For scatter diagrams, solid symbols are preferred. When a particular variable appears in more than one Figure, the same symbol should be used for it throughout, if possible.

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

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

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

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

3.10. *Footnotes*

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

3.11. *Isotope measurements*

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

In general the specific radioactivity of the starting materials should be given, preferably in terms of radioactivity per unit weight or, for stable isotopes, as atoms % excess.

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

3.12. *Radionuclide applications in man*

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

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

3.13. *Methods*

In describing certain techniques, namely centrifugation (when the conditions are critical), chromatography and electrophoresis, authors should follow the recommendations published by the Biochemical Society (currently, *Biochemical Journal* (1981) **193,** 1–21).

3.14. *Nomenclature of disease*

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

3.15. *Powers in Tables and Figures*

Care is needed where powers are used in Table headings and in Figures to avoid numbers with an inconvenient number of digits. For example: (i) an entry '2' under the heading 10^3k means that the value of k is 0·002; an entry '2' under the heading $10^{-3}k$ means that the value of k is 2000. (ii) A concentration 0·00015 mol/l may be expressed as 0·15 under the heading 'concn. (mmol/l)' or as 150 under the heading 'concn. (μmol/l)' or as 15 under the heading '10^5 × concn. (mol/l)', but not as 15 under the heading 'concn. (mol/l × 10^{-5})'.

3.16. *References*

The numerical citation system is now used: references in the text are numbered consecutively in the order in which they are first mentioned, the numerals being given in brackets, e.g. [22]. References cited in Figure legends or Tables only should be numbered in a sequence determined by the position of the first mention in the text of the Figure or Table. References should be listed in

numerical order and the names of all authors of a paper should be given, with the full title of the paper and the source details in full including the first and last page numbers, e.g.

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

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

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

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

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

3.17. *Solutions*

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

3.18. *Spectrophotometric data*

The term 'absorbance' [$\log (I_0/I)$] should be used rather than 'optical density' or 'extinction'. The solvent, if other than water, should be specified. Symbols used are: A, absorbance; a, specific absorption coefficient (litre g^{-1} cm^{-1}) (alternatively use $A^{1\%}_{1cm}$); ε, molar absorption coefficient (the absorbance of a molar solution in a 1 cm light-path) (litre mol^{-1} cm^{-1}, *not* cm^2 mol^{-1}).

3.19. *Spelling*

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

3.20. *Statistics*

Papers are frequently returned for revision (and their publication consequently delayed) because the authors use inappropriate statistical methods. Two common errors are the use of means, standard deviations and standard errors in the description and interpretation of grossly non-normally distributed data and the application of t-tests for the significance of difference between means in similar circumstances, or when the variances of the two groups are non-homogeneous. In some circumstances it may be more appropriate to provide a 'scattergram' than a statistical summary.

A reference should be given for all methods used to assess the probability of a result being due to chance. The format for expressing mean values and standard deviations or standard errors of the mean is, for example: mean cardiac output 10·4 l/min (SD 1·2; $n = 11$). Degrees of freedom should be indicated where appropriate. Levels of significance are expressed in the form $P < 0{\cdot}01$.

3.21. *Trade names*

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

4. UNITS: THE SI SYSTEM

The recommended Système International (SI) units [see *Quantities, Units and Symbols*, 2nd edn (1975) The Royal Society, London] are used by *Clinical Science* . **All papers submitted should use these units** except for blood pressure values, which should be expressed in mmHg, or gas tensions, where values at the author's discretion may be given as mmHg (with kPa in parentheses) or as kPa (with mmHg in parentheses) in the text and either as mmHg or as kPa in Figures, which (if practicable) should have scales in both units. Airways pressure should be expressed in kPa. Where molecular weight is known, the amount of a chemical or drug should be expressed in mol or in

an appropriate subunit, e.g. mmol. Energy should be expressed in joules (J).

The basic SI units and their symbols are as follows:

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

The following are examples of derived SI units:

Physical quantity	*Name*	*Symbol*	*Definition*
energy	joule	J	$kg\ m^2\ s^{-2}$
force	newton	N	$kg\ m\ s^{-2} = J\ m^{-1}$
power	watt	W	$kg\ m^2\ s^{-3} = J\ s^{-1}$
pressure	pascal	Pa	$kg\ m^{-1}\ s^{-2} = N\ m^{-2}$
electric charge	coulomb	C	A s
electric potential difference	volt	V	$kg\ m^2\ s^{-2}\ A^{-1} = J\ A^{-1}\ s^{-1}$
electric resistance	ohm	Ω	$kg\ m^2\ s^{-3}\ A^{-2} = V\ A^{-1}$
electric conductance	siemens	S	$kg^{-1}\ m^{-2}\ s^3\ A^2 = \Omega^{-1}$
electric capacitance	farad	F	$A^2\ s^3\ kg^{-1}\ m^{-2} = A\ s\ V^{-1}$
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 dm^3).

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

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

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

Compound prefixes should not be used, e.g. 10^{-9} m should be represented by 1 nm, not 1 mμm.

Notes:

(i) Full stops are not used after symbols.

(ii) Minutes (min), hours (h), days and years will continue to be used in addition to the SI unit of time [the second (s)].

(iii) The solidus may be used in a unit as long as it does not have to be employed more than once, e.g. mmol/l is acceptable, but ml/min/kg is not, and should be replaced by ml $min^{-1}\ kg^{-1}$.

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
adrenocorticotropic hormone	ACTH
adrenoceptor (see also blocking agents)	
alanine	Ala
alternating current	a.c.
alveolar minute ventilation	$\dot{V}_A$
alveolar to arterial oxygen tension difference	$(P_{A,O_2} - P_{a,O_2})$
ampere	A
aminolaevulinic acid	ALA
angiotensin	ANG; reference amino acid abbreviations are used as prefix within brackets: e.g. [Sar^1,Val^5,Ala^8]ANG
Ångstrom (Å)	*not used*; express in nm (1 Ångstrom = 10^{-1} nm)
antidiuretic hormone	ADH (when referring to the physiological secretion)
arginine	Arg
arteriovenous	a–v: *permitted* in Figures and Tables
asparagine	Asn
aspartic acid	Asp
atmosphere (unit of pressure)	*not used*; express in kPa (1 atmosphere = 101·325 kPa)
atomic weight	at. wt.
becquerel	Bq (1 d.p.s.)
blocking agents	e.g. β-adrenoceptor antagonists preferred
blood pressure	express in mmHg
blood urea nitrogen	*not used*; recalculate as urea, express in mmol/l
blood volume	BV
body temperature and pressure, saturated	BTPS

British Pharmacopoeia	write in full and give edition
calculated	calc. (in Tables only)
'Calorie' (= 1000 cal)	*not used*; recalculate as kilojoules (1 'Calorie' = 4·184 kJ)
carbon dioxide output (in respiratory physiology)	$\dot{V}_{CO_2}$; express in ml STP/min
cardiac frequency	f_c; in beats/min
cardiac output	express in l/min
centimetre	cm
clearance of x	C_x
coenzyme A and its acyl derivatives	CoA and acyl-CoA
compare	cf.
complement fractions	C1–C9
compliance (respiratory physiology)	C; express in 1 kPa^{-1}
concentrated	conc.
concentration	concn.; may be denoted []; e.g. plasma $[HCO_3^-]$
conductance (respiratory physiology)	G; express in 1 s^{-1} kPa^{-1}
correlation coefficient	r: may be used without definition
counts/min, counts/s	c.p.m., c.p.s.
cubic centimetres	*use* ml
curie	Ci (1 Ci = $3·7 \times 10^{10}$ d.p.s.)
cycle/s	Hz
cysteine	Cys
dates	e.g. 11 August 1970
dead-space minute ventilation	$\dot{V}_D$
dead-space volume	V_D
degrees, Celsius or centigrade	°C
deoxy (prefix)	*not* desoxy
deoxycorticosterone	DOC
deoxycorticosterone acetate	DOCA
deoxyribonucleic acid	DNA
dialysate	diffusate preferred; 'dialysate' should be clearly defined
diethylaminoethylcellulose	DEAE-cellulose
differential of x with respect to time	$\dot{x}$ (= dx/dt)
1,25-dihydroxycholecalciferol	1,25-$(OH)_2D_3$
dilute	dil.
2,3-diphosphoglycerate	2,3-DPG
direct current	d.c.
disintegrations/min	d.p.m.
disintegrations/s	d.p.s.
dissociation constant	
acidic	K_a
basic	K_b
apparent	e.g. K'_a
minus log of	pK
doses	avoid Latin designations such as b.d. and t.i.d.
dyne	dyn; used for vascular resistance
elastance	E; express in Pa m^{-3}
electrocardiogram	ECG
electroencephalogram	EEG
electromotive force	e.m.f.
electron spin resonance	e.s.r.
electronvolt	eV (for radiation energies)
equation	eqn.
equivalents (amount of a chemical)	*not used*; recalculate in molar terms
erythrocyte count	express as 10^{12} cells/l
erythrocyte sedimentation rate	ESR
ethanol, ethanolic	not ethyl alcohol or alcoholic
ethylenediaminetetra-acetate	EDTA
exchangeable	Na_e, K_e etc., for total exchangeable sodium, potassium etc.
Experiment (with reference numeral)	Expt.; plural, Expts.
expired minute ventilation	$\dot{V}_E$
extinction	*use* absorbance
extracellular fluid	ECF
extracellular fluid volume	ECFV
extraction ratio of x (renal)	E_x
Figure (with reference numeral)	Fig.; plural, Figs.
filtered load of x (renal)	F_x
follicle-stimulating hormone	FSH
forced expiratory volume in 1·0 s	$FEV_{1·0}$
fractional concentration in dry gas	F
fractional disappearance rate	k (as in $A = A_0e^{-kt}$)
frequency of respiration	f_R; in breaths/min
functional residual capacity	FRC
gas–liquid chromatography	g.l.c.
gas transfer factor	T; in mmol min^{-1} kPa^{-1}
glomerular filtration rate	GFR
glutamic acid	Glu
glutamine	Gln
glutathione	GSH (reduced); GSSG (oxidized)
glycine	Gly
gram(me)	g
gravitational field, unit of (9·81 m s^{-1})	g
growth hormone	GH; if human, HGH
guery	Gy (100 rads)
haematocrit	not allowed; *use* packed cell volume (PCV)
haemoglobin	Hb; express in g/dl
half-life	$t_{\frac{1}{2}}$
hertz (s^{-1})	Hz
histidine	His
hour	h
human chorionic gonadotropin	HCG
human placental lactogen	HPL
hydrocortisone	*use* cortisol
hydrogen ion activity minus log of	aH; express in nmol/l pH
25-hydroxycholecalciferol	25-$(OH)D_3$
hydroxyproline	Hyp
immunoglobulins	IgA, IgD, IgE, IgG, IgM

injection routes:	use abbreviations only in Figures
intra-arterial	i.a.
intramuscular	i.m.
intraperitoneal	i.p.
intravenous	i.v.
subcutaneous	s.c.
international unit	i.u. (definition and reference should be given for uncommon or ambiguous applications, e.g. enzymes)
intracellular fluid	ICF
intracellular fluid volume	ICFV
ionic strength	I
isoleucine	Ile
isotonic	*not used*; specify composition of fluid, e.g. NaCl, 150 mmol/l
isotopically labelled compounds	e.g. [U-^{14}C]glucose, [1-^{14}C]glucose, sodium [1-^{14}C]-acetate; *use* ^{131}I-labelled albumin, *not* [^{131}I]albumin for simple molecules: $^{14}CO_2$, $^{3}H_2O$
joule	J
kilogram(me)	kg
kilopond	*not used*; 1 kilopond = 9·8067 N
lactate dehydrogenase	LDH
leucine	Leu
leucocyte count	express as 10^9 cells/l
lipoproteins (serum)	
high density	HDL
low density	LDL
very low density	VLDL
litre	l (write in full if confusion with the numeral 1 is possible)
logarithm (base 10)	log
logarithm (base e)	ln
luteinizing hormone	LH
lysine	Lys
maximum	max.
mean corpuscular haemoglobin	MCH; express in pg
mean corpuscular haemoglobin concentration	MCHC; express in g/dl
mean corpuscular volume	MCV; express in fl (1 μm^3 = 1 fl)
median lethal dose	LD_{50}
meta-	*m*-
melting point	m.p.
methanol, methanolic	*not* methyl alcohol
methionine	Met
metre	m
Michaelis constant	K_m
micromole	μmol
micron (10^{-6} m)	μm; *not* μ
milliequivalent	*not used*; 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)
millimolar (concentration)	mmol/l; *not* mM
millimole	mmol
minimum	min.
minute (60 s)	min
molal	mol/kg
molar (concentration)	mol/l; *not* M
molar absorption coefficient	ε (the absorbance of a molar solution in a 1 cm light-path)
mole	mol
molecular weight	mol. wt.
nicotinamide–adenine dinucleotide	NAD if oxidation state not indicated NAD^+ if oxidized NADH if reduced
nicotinamide–adenine dinucleotide phosphate	NADP if oxidation state not indicated $NADP^+$ if oxidized NADPH if reduced
normal	should not be used to denote the concentration or osmolarity of a solution
normal temperature and pressure	*use* standard temperature and pressure (STP)
nuclear magnetic resonance	n.m.r.
number (in enumerations)	no. (in Tables only)
observed	obs. (in Tables only)
ohm	Ω
ornithine	Orn
ortho-	*o*-
orthophosphate (inorganic)	P_i
osmolality	express in mol (or mmol)/kg
oxygen uptake per minute (in respiratory physiology)	$\dot{V}O_2$; express in ml STP/min
packed cell volume	PCV
page, pages	p., pp.
para-	*p*-
para-aminohippurate	PAH
partial pressure	P; express in either kPa or mmHg (see p. vi)
e.g. alveolar, of O_2	P_{A,O_2}
arterial, of CO_2	Pa,CO_2
capillary, of O_2	P_{C,O_2}
mixed venous, of CO_2	$P\bar{v},CO_2$
pascal	Pa
per	/
per cent	%
petroleum ether	*not used*; *use* light petroleum and give boiling range
phenylalanine	Phe
plasma renin activity	express as pmol of angiotensin I h^{-1} ml^{-1}
plasma volume	PV
poise	1 poise = 10^{-1} N s m^{-2}

potential difference	p.d.
power output	W (1 W = 0·1635 kpm/min)
precipitate	ppt.
pressure	*P*; express in kPa (except for blood pressures and gas tensions: see p. 6); 1 kPa = 7·5 mm Hg
probability of an event being due to chance alone	*P*
proline	Pro
protein-bound iodine (plasma)	PBI
pulmonary capillary blood flow	$\dot{Q}$c
pyrophosphate (inorganic)	PPi
rad (radiation dose; 10^{-5} J absorbed/g of material)	not abbreviated (100 rads = 1 Gy)
red blood cell	*use* erythrocyte; express counts as 10^{12} cells/l
red cell mass	RCM
relative band speed (partition chromatography)	R_F
rem	100 ergs/g × quality factor
renin	*see* plasma renin activity
residual volume	RV
resistance (rheological)	*R*; express in kPa l^{-1} s
respiratory exchange ratio (pulmonary)	*R*
respiratory quotient (metabolic)	RQ
revolutions	rev.
rev./min	*not* r.p.m.; *use g* if possible (see p. viii)
ribonucleic acid	RNA
röntgen	R
saline	define at first mention [e.g. NaCl solution (154 mmol/l)]
saturation	*S*, e.g. Sa,o_2 for arterial oxygen saturation (see partial pressure for other analogous abbreviations)
second (time)	s
serine	Ser
sievert	Sv (1 J/kg × quality factor)
solvent systems	e.g. butanol/acetic acid/water (4:1:1, by vol.), butanol/acetic acid (4:1, v/v)
species	sp., plural spp.
specific activity	sp. act. Confusion must be avoided between e.g. specific radioactivity and the specific activity of an enzyme
specific conductance of airways	s*G*aw; express in s^{-1} kPa^{-1}
standard deviation standard error of the mean	SD SEM } may be used without definition
standard temperature and pressure	STP
steroid nomenclature	see *Biochemical Journal* (1969) **113,** 5–28; (1972) **127,** 613–617
sulphydryl	*use* thiol or SH
sum	Σ
Svedberg unit	S
temperature (absolute)	*T*
(empirical)	*t*
temperature, thermodynamic	°K
thin-layer chromatography	t.l.c.
threonine	Thr
thyrotrophic hormone	TSH
thyrotrophin-releasing hormone	TRH
tidal volume	V_T
time (symbol)	*t*
time of day	e.g. 18.15 hours
torr	not used; *use* kPa (1 torr = 0·133 kPa)
total lung capacity	TLC
tryptophan	Trp
tubular maximal reabsorptive capacity for x	$T_{m,x}$
tyrosine	Tyr
ultraviolet	u.v.
urinary concentration of x	U_x
valency	e.g. Fe^{2+}, *not* Fe^{++}
valine	Val
variance ratio	*F*
vascular resistance	express in kPa l^{-1} s (with value in dyn s cm^{-5} in parentheses); primary values of differential vascular pressure (mmHg) and flow (l/min) should always also be given in Tables or text as appropriate
velocity	*v*; express as m s^{-1}
venous admixture	$\dot{Q}_{va}$
veronal	used only for buffer mixtures; otherwise use 5,5′-diethylbarbituric acid
viscosity, dynamic	η
viscosity, kinematic	*v*
vital capacity	VC
volt	V
volume of blood (in cardiorespiratory physiology)	*Q*; use $\dot{Q}$ for blood flow rate
watt	W
wavelength	λ
weight	wt.
white blood cell	*use* leucocyte; express counts as 10^9 cells/l

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AUTHOR INDEX

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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.

CORRECTIONS

Volume 59

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

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