Wiley-Blackwell House Style Guide

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INTRODUCTION

The *Wiley-Blackwell Publishing House Style Guide* and its online version have been produced for the use of editors, production editors, freelances, copy-editors, authors and typesetters. The level of consistency that this guide promotes is intended to assist all those involved in the production of Wiley-Blackwell (WB) publications. The WB definition of copy-editing is best described as technical or mechanical editing, which involves language editing, mechanical style (style related to content) and format (visual style). Technical or mechanical editing includes applying house style, technical style, formatting, consistency and correcting grammar. Creative or substantive editing is not usually within the remit of the WB copy-editor and is not commented upon. This guide is not intended to be a comprehensive account of all that is necessary for the presentation of research material, and should be used in conjunction with texts that have greater scope (see recommended references). Some journals and subject areas employ their own systems and conventions and the intention is not to impose upon them a rigid style, but rather to establish a framework within which they can operate.

The online version of this guide, available at www.blackwellpublishing.com/housestyle, will be updated on a regular and on-going basis and should be regarded as the definitive version. A separate guide is available for US journals.

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PART 1: GENERAL EDITING STYLE

1.1 Copy-editing

Journals and articles **vary** in the amount of editing required, depending on the thoroughness of the **editor** and the standard of the **text supplied.** Copy-editing usually involves:

- applying **journal style**
- applying **Wiley-Blackwell house style** where no specific journal convention exists
- **formatting** text
- making text **consistent**
- **correcting English** to ensure the article is readable

STYLE AND FORMATTING

Check your **journal style sheet** for the styles of authors' names, addresses and affiliations, correspondence details, keywords, table and figure captions, etc., and for the formatting of text (e.g. use of small text in some sections).

CONSISTENCY

The following should all be used **consistently**: UK/US spellings, alternative spellings, grammar, punctuation, italics, Greek letters, diacritics, hyphenation, capitalization, abbreviations and contractions. References and their citations should be consistent and complete. Make sure that all figures and tables are present and match their legends, and that they are cited in order.

CORRECTION OF ENGLISH

You may need to **correct** spelling, punctuation, grammar and syntax, and to edit for sense. If text is ambiguous, add a query to the author asking for clarification. Do not rewrite or delete large sections of text.

1.2 English Usage and Grammar

VOICE

The tendency to present scientific text in the passive voice is fading. Most Wiley-Blackwell journals and readers now accept use of the active voice. Unless the journal has a strict requirement for the active or passive voice, **follow the authors' preference**, as long as this is consistent within the manuscript.

Be wary of the passive voice in the **Discussion**, as it can sometimes be unclear whether the authors are talking about their own work or that of other people. You may need to use phrases such as 'in the present study, it was found that …' to clarify this.

TENSE

Methods used and **results obtained** by the authors should be referred to in the past tense:

- mice *were given* two types of grain
- mice in group A *ate* 50 mg of grain

The past tense will therefore generally be employed in the Abstract, Methods and Results sections. The past tense should also be used to talk about **specific findings** of previous work:

- Smith (1990) found that yield *decreased by* 50%

Interpretation of results should be in the present tense:

- the results for groups A and B *are* significantly different

The present tense will therefore generally be employed in the Introduction (except, for example, when the authors are stating what their hypothesis and aims were before the study commenced). The present tense should also be used in the Discussion when the results are being interpreted:

- Our study *shows* that a significant number of Finnish people speak Finnish

Findings of previous studies should also be referred to in the present tense if they have become **generally accepted 'facts'**:

- treatment X *results* in Y, as demonstrated by Jones (1978)
- the expression of class I genes *varies* amongst haplotypes

Watch for mistakes in the use of tenses in manuscripts from non-native English speaking authors (native English speakers tend to use the correct tense instinctively).

SUBJECT AND VERB AGREEMENT

Verbs must agree in **number** with the sense and form of the subject. Check whether a noun is plural or singular and make sure that the verb agrees.

- **Collective nouns**, e.g. school, number, family and committee, usually take singular verbs but can take plural verbs if the emphasis is on the individual rather than on the unit itself, e.g. *the committee has agreed to extend the deadline; the committee have been at odds from the beginning*.
- Note the difference between **mass nouns** (which do not have countable elements) and **count nouns** (which identify things that can be counted), when used with **pronouns** (all, any, none, some), e.g. *some of the sky was visible; some of the stars were visible*.
- **Units** usually take singular verbs, e.g. *150 mL of blood was sampled*.
- Take care with **Latin and Greek nouns** such as data, media, errata, criteria and phenomena, which are plurals; singulars are datum, medium, erratum, criterion and phenomenon (an exception is data processing): *data are presented; dual-medium filters were used; two phenomena were classified using one criterion.*

USE OF *THAT* AND *WHICH*

That is used for defining or restrictive clauses:

- The patient made a list of the symptoms *that* were most troublesome

A defining clause is specific (limiting) to a particular person or thing; i.e. the patient had to list *only* those particular symptoms that were most troublesome.

Which is used in nondefining or nonrestrictive clauses:

- The patient made a list of the symptoms, *which* were most troublesome

A nondefining clause is general (nonlimiting); it provides additional information, and the use of commas is often important. In this example, *all* the symptoms were very troublesome.

DANGLING PARTICIPLES

These frequently occur where the passive voice is used, and they can link an action to an agent that is **incapable** of performing it. The clause 'the ribosomes could be observed using a microscope' should be reworded: 'the ribosomes were observed by using a microscope' or 'using a microscope, the ribosomes were observed'.

REDUNDANCY

Avoid using a modifying word when the intended meaning is **inherent** in a word already used. Redundancy is obvious in examples such as *the results were plotted graphically, past history, bright blue in colour, inactivates its activity* and *completely filled*. Does the term *careful monitoring* suggest that the alternative is *careless monitoring*?

DEFINITE AND INDEFINITE ARTICLES

Many non-native English speaking authors have some confusion about when to use the definite (*the*) and indefinite (*a* and *an*) articles.

✗ … to determine effect of the salinity on grain yield of wheat

✓ … to determine the effect of salinity on the grain yield of wheat

Also be aware that use of definite and indefinite articles in titles can differ from that in ordinary text:

✓ Effect of Salinity on Grain Yield of Wheat

See the recommended usage guides for guidance on the use of the indefinite article with words beginning with 'h' (e.g. *a hotel; an hour*).

INACCURATE PHRASES

Be accurate in your **word choice**. For example, *dose* is the amount of drug given at one time; *dosage* is the regulation or determination of doses.

USE OF 'ONLY'

The **position** of the word 'only' can lead to ambiguity, e.g. 'the doctor *only* sees patients in the morning' could mean '*only the doctor* sees patients in the morning'; 'the doctor sees patients *in the morning only*', or 'the doctor *sees only patients* in the morning'.

BALANCING A SENTENCE

It is important to ensure that a sentence balances on either side of certain words (correlatives) that emphasize similarity or contrast and that are used in **parallel**: *both* and *and*; *either* and *or*; *neither* and *nor*; *not only* and *but*; *between* and *and*; *whether* and *or*. For example, 'I swam *both* in the morning *and* afternoon' should be 'I swam *both* in the morning *and* in the afternoon' or 'I swam in *both* the morning *and* the afternoon'. Note the position of the preposition *in*. (See also the section 'Editing for Sense'.)

COMPARATIVES AND SUPERLATIVES

- If you are comparing two things, or two groups of things, or **one thing with a group of things**, you should use a comparative, not a superlative.

✗ Jim is tallest compared with David, John and Mike

✓ Jim is the tallest of the four men

✓ Jim is taller than David, John and Mike

- Do not use '**relatively**' with a comparative, e.g. *relatively less*. This is tautology; 'relatively' should be deleted.
- Make sure that it is **clear** what is being compared with what (e.g. 'in patient 3, there was greater reactivity for *P. gingivalis* in dental plaque from the first molar'… Is 'greater' being used to compare patients, bacteria or sites in mouth?).

MISCELLANEOUS POINTS

'Male' and 'female' are adjectives, so be careful to use them as such (i.e. *a male patient* and *a female frog*, but *a 35-year-old man*, *a French woman* and *a group of 25 men and 35 women*). Many authors get this wrong.

EXPRESSIONS TO AVOID

- *Since* should be used only with reference to time, and not for *because*.
- *Although* is preferred to *though*.
- *Done*, as in the experiment was done, should be replaced with *performed* or *carried out*.
- *Parameter* should only be used to describe a defining limit, and is not interchangeable with *variable*.
- *A lot of* should be replaced with *many* or, preferably, should be defined more precisely.
- Avoid *get* and *got*.
- *As a result of* or *because of* are preferred to *due to*.
- *Hopefully* should be avoided.
- Try to avoid references in the text to *see below* or *in the Results section*.
- Use *dependency* only for foreign territories; otherwise use *dependence*.

USE WITH CAUTION

Be aware of potentially **litigious** content, for example the naming of patients or criticism of the actions of individuals, organizations or companies.

POLITICALLY SENSITIVE TERMS

Race and ethnicity

Try to avoid the terms *Blacks* and *Whites*; use instead *Black people*, *White people*, etc. *Caucasian*, *Mongoloid*, *Negroid*, etc. are generally to be avoided, except in human population studies. *Mixed race* is preferable to *half-caste* or *coloured*.

Disabilities

- *People with disabilities* not *the disabled*
- *People with learning difficulties* not *mentally handicapped*

Gender

Use **neutral** nouns: avoid the use of man if not specifically referring to *men*; for example, for *man* use *humans*; for *mankind* use *the human race*; for *manpower* use *workforce*; for *manmade fibre* use *synthetic fibre*. Use inclusive pronouns: use *he or she*, or rephrase the sentence (rephrasing to the plural form often works):

✗ Any observer of changes in publishing technology will perceive that he has need of…

✓ Observers of… will perceive that they have…

Beware of referring to people with stereotypical pronouns (e.g. 'the doctor treated *his* patient'; 'the secretary tidied *her* desk'). Social classes and age groups should also not be stereotyped.

Disease

Avoid health-determined categorization. Use *people with diabetes* not *diabetics*; *people with cancer* not *cancer sufferers*, etc. **Avoid** phrasing that dehumanizes a patient: many authors use *case* (instance of a disease) when they mean *patient* (person who is ill with the disease).

AIDS

- Ensure that *AIDS* is used for the disease and *HIV* for the virus, e.g. do not use *AIDS carrier*, *AIDS positive*, *AIDS virus* or *catching AIDS*.
- *AIDS sufferer/victim* is inappropriate; use *people with AIDS*.
- *People who practise high-risk activities* not *high-risk groups*.
- The expression *full-blown AIDS* is unnecessary if the correct distinction has been made between HIV and AIDS.

Sexuality

Avoid the terms *homosexual activities* (specify which activity is being referred to) and *homosexuals* (specify homosexual men or lesbians).

Geography

The terms *Third World*, *poor countries* and *underdeveloped countries* should be **avoided**. *Developing* or *nondeveloped country/society* is better, but it is best to specify countries or regions instead. *Western society* and *Western World* should only be used in relation to geography; otherwise, use *developed world/society* or, even better, specify the countries themselves or the region.

Key points

- It is now acceptable to **use the active or the passive voice**.
- Use the **past tense** for the author's methods and results, and the **present tense** for interpretation and generally accepted 'facts'.
- The **subject and verb** must agree in number.
- '**That**' is defining; '**which**' is not.
- Check that **articles** ('a', 'an' and 'the') are used correctly.
- Sentences must **balance** (e.g. with 'both… and…').
- In **comparisons** (e.g. with lower/higher/less/more), make sure it is clear what is being compared with what.
- **Avoid** sexist, dehumanizing and stereotypical language.

1.3 Editing for Sense

You do not need knowledge of the subject matter to be able to edit for sense. Often it will be obvious what the author is trying to say, in which case you do not need to add a specific query (e.g. 'with this investigation the effects of antibiotic treatment were inquired' can safely be changed to 'in this investigation, the effects of antibiotic treatment were investigated'). However, if you are having to make substantial changes, add a **query** to the beginning of the article telling the authors that text has been reworded throughout and asking them to check carefully.

Be very careful **not to change the meaning**. It should always be your goal to make **only** the changes that are **necessary**. If in doubt, leave unchanged and ask the author for clarification.

AMBIGUOUS TEXT

When text is ambiguous, the intended meaning is sometimes obvious from the **context** and rewording is straightforward. If this is not the case, you must **query** the authors. It is best, if you can, to give them two (or more) choices rather than just asking what they mean.

Phosphorylated hexoses: glucose-6-P and fructose-1-P, repress the expression of many resistance genes.

Query Do you mean 'Phosphorylated hexoses, such as glucose-6-P and fructose-1-P, repress the expression of many resistance genes' or 'The phosphorylated hexoses glucose-6-P and fructose-1-P repress the expression of many resistance genes' or something else?

Misplaced **modifiers** (words or phrases that limit or qualify the sense of text) can create ambiguity about what they are modifying.

- ✗ She continued editing after the meeting finished early *because she had to send the issue to the typesetter*
- ✓ *Because she had to send the issue to the typesetter*, the meeting finished early and she continued editing
- ✓ After the meeting finished early, she continued editing *because she had to send the issue to the typesetter*

NON SEQUITURS

Look out for text that **does not logically follow** what goes before (e.g. 'humans and mammals…' should be changed to 'mammals, including humans, …' because humans **are** mammals).

- ✗ Forage turnip is widely grown in northern Europe, *but* it is distributed over much of northern Asia, northern North America and southern Oceania.
- ✓ Forage turnip is widely grown in northern Europe *and is also* distributed…

Sometimes it is **not clear** what the author means to say.

The sensitivity of barley seedlings changed after 4 weeks of cold treatment, but decreased after 6 weeks.

Query Do you mean 'The sensitivity of barley seedlings began to decrease after 4 weeks… and decreased further after 6 weeks' or 'The sensitivity of barley seedlings increased after 4 weeks…. but decreased after 6 weeks'?

These results are in conformity with the results of Smith *et al.* (1984). This provides acid production *in vitro* observed over a period of time by Jones (1980) also.

Change These results are consistent with those of Smith *et al*. (1984). They also provide an explanation for the acid production *in vitro* observed over a period of time by Jones (1980).

Query 'These results…' Rewording of two sentences OK?

BALANCING SENTENCES

Use **parallel** grammatical constructions with conjunctions (and, but, etc.) and in comparisons.

✗ the titre *in week 2* increased by 50% for patient 1, and by 60% for patient 3 in week 4

✓ the titre increased by 50% for patient 1 *in week 2*, and by 60% for patient 3 in week 4

✗ … to evaluate the relationships between clinical (e.g. stroke impairment, functional status, depression, and side of stroke lesion) and sociodemographic (e.g. age, gender, marital status and emotional support) factors

✓ … to evaluate the relationships between clinical (*degree of* stroke impairment, functional status, *presence/absence of* depression and side of stroke lesion) and sociodemographic (age, gender, marital status and *extent of* emotional support) factors

✗ Detection of immunostained proteins by light microscopy is not as clear as electron microscopy

✓ Detection of immunostained proteins by light microscopy is not as clear as *that by* electron microscopy

PRONOUNS

Watch out for pronouns that refer back to the wrong noun.

The pellet was dissolved in 100 mL of distilled water. *It* was then filtered through Whatman no. 41 paper.

Change 'It' to e.g. 'This solution' ('the pellet' can't be filtered!).

FEWER/LESS

Although **more** can be used for both countable (e.g. *more stars*) and uncountable (e.g. *more rain*) nouns, **fewer** must be used for **countable** nouns (e.g. *fewer stars*, *fewer cups of tea*, *fewer examples*) and **less** for **uncountable** nouns (e.g. *less rain*, *less tea*, *less information*).

✗ Less people

✓ Fewer people

STRONG/WEAK, HIGH/LOW AND LARGE/SMALL

Authors sometimes make the wrong choices here.

✗ the values of *r* were strong

✓ the values of *r* were high

✗ there was a low correlation

✓ there was a weak correlation

MISCELLANEOUS PROBLEMS

- Words **missing**

  The sorbitol and xylitol interaction on sugar metabolism was greater at higher pH.

  Change *The effect of* the sorbitol and xylitol interaction on sugar metabolism was greater at higher pH.

  In this study the relationship between plant resistance to fungi and some physiological processes.

  Change In this study, the relationship… *was investigated*.

- Words **wrong**

  Barley companion crop reduced weed content of herbage by 39–94% *related in* sowing rate and cutting stage.

  Change The barley companion crop reduced the weed content of herbage by 39–94 % *depending on* the seeding rate and cutting stage.

- **Strange** wording

  All patients were examined and interviewed *on a hospital basis.*

  Change (**and query**) All patients were examined and interviewed *in hospital.*

- Wrong **subject** and **verb**

  Harvest date in barley gave different effects depending on seeding rates.

  Change (**and query**) In barley, the effect of harvest date depended on the seeding rate.

- **Adjective** with wrong **noun**

  the *highest* patient for recovery score

  Change (**and query**) the patient with the *highest* recovery score

- **Typos**

  The weed forms its own pure colonies at the expanse of native gasses

  Change (**and query**) … at the expense of native grasses

Key points

- **If text does not make sense** or is likely to cause the reader problems, **change it** and, if necessary, add a **query** to the author.
- Look out for **ambiguous** text and **non sequiturs**.
- Make sure **parallel** grammatical constructions are used with conjunctions and in comparisons.
- **Pronouns** must refer back to the correct noun.
- **Fewer/less**, **strong/high/low** and **weak/low/small** are often used incorrectly.
- Check that **subject/verb** and **noun/adjective** pairs make sense (e.g. in 'the highest patient for recovery score', the adjective has been attached to the wrong noun).

1.4 Spelling

Spelling should be **consistent** within an article. When two or more spellings of a word are given in a **dictionary**, the first listed is generally the one preferred.

UK/US ENGLISH

In the following examples, the UK spellings are shown to the left of the double arrows and the US spellings to the right.

ae- ↔ e-
aetiology ↔ etiology
caesium ↔ cesium
haemoglobin ↔ hemoglobin
leukaemia ↔ leukemia
palaeoenvironment ↔ paleoenvironment

oe- ↔ e-
diarrhoea ↔ diarrhea
dyspnoea ↔ dyspnea
manoeuvre ↔ maneuver
oedema ↔ edema
oesophagus ↔ esophagus
oestrogen ↔ estrogen

-lled ↔ -led, -lling ↔ -ling
labelling ↔ labeling
modelled ↔ modeled

-our ↔ -or
behaviour ↔ behavior
colour (**but** coloration) ↔ color
neighbour ↔ neighbor
tumour ↔ tumor

-ical ↔ -ic
anatomical ↔ anatomic
biological ↔ biologic
geographical ↔ geographic
immunological ↔ immunologic

-logue ↔ -log
analogue ↔ analog
(except 'analog–digital conversion')
catalogue ↔ catalog

-re ↔ -er
centre ↔ center
fibre ↔ fiber
litre ↔ liter
metre (the unit) ↔ meter
titre ↔ titer

-yse ↔ -yze
analyse ↔ analyze
catalyse ↔ catalyze
dialyse ↔ dialyze

adrenaline ↔ epinephrine (Adrenalin = US trade name)
ageing ↔ aging
alternative ↔ alternate
aluminium ↔ aluminum
amongst ↔ among
cyclosporin ↔ cyclosporine
despatch ↔ dispatch
disc ↔ disk (**NB** always disk for computers)
dysrhythmias ↔ arrhythmias
fulfil ↔ fulfill
leucocyte ↔ leukocyte
licence (noun) ↔ license
mould ↔ mold
neurone ↔ neuron
noradrenaline ↔ norepinephrine
orientate ↔ orient
practise (verb) ↔ practice
programme ↔ program (and UK for computers)
quantify ↔ quantitate
quantification ↔ quantitation
skilful ↔ skillful

S VERSUS Z SPELLING

S spellings	
advise	exercise
arise	expertise
chastise	franchise
circumcise	improvise
comprise	incise
compromise	revise
concise	supervise
despise	surmise
devise	surprise
excise	televise
	treatise

Z spellings	
agonize	hypothesize
civilize	metabolize
colonize	minimize
criticize	pasteurize
emphasize	realize
equalize	recognize
familiarize	stabilize
finalize	standardize
generalize	summarize
globalize	temporize
	vaporize

FOREIGN LANGUAGES

Accents and diacritical marks

These are marks attached to **letters** of the alphabet that show (i) how the pronunciation differs from that of the unmarked letter, (ii) where the stress falls in a polysyllabic word or (iii) what tone or pitch goes with a particular word.

- **German** Use ß (eszett) for ss, but only in lower case (and note that not all ss are ß); in caps (and small caps), SS is always used. Use umlauts over ä, ö and ü rather than using the respective diphthongs ae, oe and ue. Remember that, in German, all nouns have initial caps (e.g. ein Haus, das Sein) and they should retain these when italicized.
- **French** Upper-case letters carry accents, e.g. *RÉSUMÉ*. The exception is the preposition *à*, e.g. *A la porte*.
- **Scandinavian** characters should be alphabetized as follows:
  …Z, Æ, Ø, Å (Danish, Norwegian)
  …Z, Þ, Æ, Ö (Icelandic)
  …Z, Å, Ä, Ö (Finnish, Swedish)

Foreign names

Take care with the **capitalization of particles** in foreign names (e.g. Philippe Du Puy de Clinchamps, Vasco da Gama, Vincent van Gogh). These appear in lower case except at the start of a sentence or when the name is anglicized. Generally, just use **what the author provides**. In **reference** lists, lower case particles are listed under the letter of the name proper but upper case particles under the letter of the particle (e.g. da Silva under 'S' but Von Trapp under 'V'). **Do not abbreviate** 'Saint' and 'Sainte' in French surnames. Some **Japanese** and **Chinese** names are presented with the surname first, so be careful when filing these in a reference list. **Spanish** and **Portuguese** names are sometimes composed of two family names (mother's and father's) and should be listed under the penultimate element (e.g. Federico Gutierrez Granier should be listed under Gutierrez). Hyphenated **Asian** names do not take a full point after the first initial (e.g. Jen-Yi Hwang is J-Y. Hwang not J.-Y. Hwang; cf. Jean-Marc Lafayette, which is J.-M. Lafayette).

RECOMMENDED SPELLING GUIDES

- UK spelling: *Concise Oxford Dictionary*
- US spelling: *Merriam-Webster's Collegiate Dictionary*
- Australian spelling: *Macquarie Dictionary*
- See *The Chicago Manual of Style* for information on capitalization, punctuation and word division in foreign languages.

1.5 Punctuation

Punctuation should be used to **help the reader** understand the text.

COMMAS

Context	Examples
Not essential where a conjunction is used between two clauses unless there is a change of subject	*We tried to resuscitate the patient but to no avail.* *Resuscitation is possible, but brain damage is likely.*
Used to isolate a word, phrase or subordinate clause	*Resuscitation, although dangerous, is possible.* *On revival, the patient was monitored regularly.* *… days 3, 4 and 10, respectively.* *Therefore, the experiment was….*
Used to isolate nondefining clauses	*The cells, which were infected, were excised.* The commas help to isolate the nondefining clause (see differences between 'that' and 'which' above).
Not used to separate sentences	✗ The cells produced more lactate, however they did not produce acetate. ✓ The cells produced more lactate; however, they did not produce acetate.
Used in lists	*The solution contained 200 mg of glucose, 100 g of ascorbic acid and 500 mL of distilled water.* UK English: a comma before 'and' (known as the Oxford comma or serial comma) is unnecessary in the above example, but it may be used in lengthy lists or to avoid ambiguity. US English: authors prefer to place a comma before the 'and' here.
'Therefore' should not be enclosed within commas when used as an adverb	*These samples were therefore discounted.*
Used to clarify a sentence	*The precipitate formed after shaking on the bottom* makes more sense with the addition of commas, thus: *The precipitate formed, after shaking, on the bottom.*

APOSTROPHES AND PRIMES

Apostrophes should be used to identify **possessive nouns**, e.g. *the body's defence system*, *the girls' hats*. Such words ending in 's' should still be followed with an apostrophe 's', e.g. *Claudius's reign*. An apostrophe should **not** be used where an acronym, abbreviation, date or number is pluralized: ANOVAs, 1980s, etc. Where apostrophes are used to indicate **missing letters** in informal English (e.g. *I'm, we're, he's; it's not clear; there're many patients; it's been found*), it is usually preferable to write the words out in full (e.g. *it is not clear; there are many patients; it has been found*).

Look out for **its** (possessive; e.g. *its tail*) and **it's** ('it is' or 'it has'; e.g. *it's got a tail*).

St Thomas' Hospital
Queens' College, Cambridge
The Queen's College, Oxford

Primes (′) are used to denote **derivatives** of mathematical variables (e.g. *a* and *a*′) and for **minutes of angle** (e.g. 12°14′N). They should **not** be used instead of the standard abbreviation 'min' for minutes of time.

HYPHENS

Journals will often have a specific hyphenation style, for which you should refer to your **journal style sheet**. Also check the relevant **dictionary** if necessary. Make a **decision** about hyphenation and apply it throughout the typescript, taking into account the author's style, the likely readership, and the meaning of individual words and phrases. Minimal hyphenation is generally preferred.

Prefixes

DO hyphenate… prefixes that stand as words in their own right (e.g. cross, half, all); these are usually hyphenated when used as adjectives (e.g. cross-section, half-life, all-inclusive). There are, however, more than a few exceptions (e.g. outpatient, crosshatched, overexposed). Hyphens are also needed when a prefix is attached to a word or phrase starting with a capital letter (e.g. anti-HLA, non-Euclidean, sub-Alpine).

DO NOT hyphenate… prefixes that cannot stand as words in their own right (e.g. anti, bi, co, hyper, hypo, infra, inter, intra, micro, multi, palaeo, peri, pre, pseudo, re, sub, supra, ultra, uni); these are usually closed up when used as adjectives, unless two vowels or the same consonants abutt (e.g. hyper-reactive, pre-operative, anti-inflammatory, co-opted, re-election; **NB** US authors are less inclined to use hyphens in such cases). Note, however, that this rule may need to be broken (e.g. ultra-high-vacuum environment, pseudo-first-order distribution, re-create). If in doubt, follow the author's style.

Compound terms

DO hyphenate… many compound terms and adjectives (e.g. iron-rich sediments; salt-leached water; 19-year-old boy **but** boy aged 19 years; T-cell receptor **but** T cell), particularly where the meaning would otherwise be ambiguous. In more complex examples, the second hyphen normally has priority over the first (e.g. 'T cell-receptor expression' would often be preferred to 'T-cell-receptor expression'; **but** '10-cm-diameter pots', not '10 cm-diameter pots'). The second part of a compound term used in a book case heading should not be capitalized (e.g. Subject-specific Conventions).

DO NOT hyphenate… compound adjectives consisting of a past participle preceded by an adverb ending in '-ly' (e.g. dermatologically tested soap). It is not necessary to use hyphens for well-established compound terms whose meaning is clear (e.g. amino acid residues, freezing point determination). Avoid floating hyphens (e.g. phosphorus- or sulphur-containing compounds). Try to reword the sentence to eliminate the need for the floating hyphen, but be careful not to change the sense (e.g. if the hyphen is removed after 'phosphorus' in the sentence above, the sense changes).

Chemical names

Hyphens are often used in chemical names (e.g. 2-mercaptoethanol, a1-antitrypsin).

Miscellaneous

- Avoid bad word breaks at the ends of lines (e.g. *pseud-obedding*; *the-rapist*)
- 10-fold but twofold
- Two-thirds, thirty-seven
- North-west
- Inpatient and outpatient (not hyphenated)

EN/EM RULES

Authors often confuse en/em rules and hyphens.

For	You should use	Example
A number or value range	En rule	5–10 (**but** 'from 5 to 10', **not** 'from 5–10')
Chemical mixtures/bonds that have retained their individual properties and have **not** become a new compound	En rule	DEAE–cellulose
Long chemical names, by convention	Hyphen	2-isopropyl-(3,4)-dihydro(carbodiimide)purine
Two names associated with a process, invention, syndrome or company	En rule	Epstein–Barr virus Hardy–Weinberg equilibrium
A compound expression in which the first part of the compound does not modify the second part	En rule	dermal–epidermal junction dose–response curve case–control study
A compound expression in which the first part is a prefix	Hyphen	Dermo-epidermal junction

continued

For	You should use	Example
Complex associations	Hyphen and en rule **or** hyphen and solidus	oak-forest–hazel-scrub interaction **or** oak-forest/hazel-scrub interaction
Compound expressions that already contain hyphens	'To' **not** en rule	5- to 10-day interval **not** 5–10-day interval
Missing data in a table	En rule or em rule	e.g. for 'not tested'
Missing words or letters	Em rule	Rarely, it may be journal style in reference lists to indicate the same author(s) as the previous entry by em rules. Smith, B., and P.G. Pardey. The economics of… —. Funding, structure and management…

SEMICOLONS

- The semicolon is stronger than a comma but not as decisive as a full point. It **can** be used to **separate sentences** (whereas a comma cannot).
- Use a semicolon before, and a comma after, the **conjunctive adverbs** *however, that is, nevertheless*, etc.

COLONS

Colons are used to introduce material that restates, explains, enlarges upon or summarizes previous material. They also introduce items in a list set off from text (but a colon is not needed in run-on lists introduced by the words *for example*, *namely*, *including*, etc.; e.g. in the sentence 'The pavlova looks nice with red fruit on it, for example: strawberries, raspberries and redcurrants' the colon should not be there).

- In **UK spelling**, a capital letter is not used after a colon (except in titles and subtitles). In **US spelling**, if the material introduced by a colon consists of more than one sentence, or if it is a formal statement, quotation or speech in dialogue it should take a capital after the colon.
- **Ratios** containing words should have a thin space on each side of the colon (e.g. the light : dark cycle) but ratios containing numbers should be closed up (e.g. 16:8 h).

Key points

- Use **commas** to clarify sentences.
- **Do not use a comma to separate sentences**; use a semicolon (this is a particularly common error before 'however' and 'nevertheless').
- **Do not use apostrophes** with **plural abbreviations** (e.g. ANOVAs, not ANOVA's).
- For **hyphenation**, refer to your journal style sheet.
- **Do not hyphenate** adverbs ending in **-ly** (e.g. dermatologically tested soap).
- Use **hyphens** in **compound terms** to clarify meaning (e.g. six-well plates).
- Use **en rules**, not hyphens, for **associations** (e.g. dose–response curve).

1.6 Units

Check your **journal style sheet** for the use of units (e.g. some journals use a negative index and some use a solidus to indicate *per*).

DO USE

- **Abbreviations** for seconds (s), milliseconds (ms), minutes (min), hours (h), million years (Myr), million years ago (Ma) and billion years ago (Ga). (Exceptions in running text are e.g. *5 minutes' walk* and *five-minute start*.)
- A **hyphen** with units as adjectives (e.g. 30-cm ruler, 2-min test, 5-kb fragment), unless this is not journal style.
- Either a solidus (/) or a negative index ($^{-1}$, $^{-3}$, etc.) for **per** (e.g. 5 m/s or 5 m s^{-1}).
- Figures for **quantities** that are measured in units, but words for **numbers of objects** less than 10 (e.g. *5 years* but *five dogs*; also *fifth* but *15th*). However, it may be better to break this rule if an inventory of objects is presented (e.g. *13 cats*, *8 dogs* and *24 mice*).
- En rules for **ranges** of values (e.g. 15.4–27.6 g), except for values used with linked prepositions (e.g. *between… and*).
- Système International (**SI**) units, unless instructed otherwise.
- Closed-up figures for numbers in the **single-digit thousands** (1000–9999), and thin spaces in UK English for numbers of five figures and over (US English uses commas not spaces) (e.g. 12 624, 200 000 000). However, it is usually preferable to express **large numbers** using factors of 10 (e.g. 3.75×10^7 cells/L).
- A unit term as a **singular** entity when considering subject–verb agreement (e.g. 5 g *was*…).
- Numbers and their units in full at the **start of a sentence** (e.g. *Fifty-eight kilograms of grain*…).
- **Thin spaces** between numbers and units, and between units (e.g. 10 min, 6.5 W, 20 °C, 47.6 m/s 5 mg mL^{-1}, but 4% and sometimes 20°C).

DO NOT USE

- **Abbreviations** for days, weeks, months and years.
- **Acre**; use hectare (1 acre = 0.4047 ha).
- **Ångström**; use nanometres (1 Å = 0.1 nm).
- **Calorie**; use joules (1 cal = 4.186 J).
- × before **gravitational force** (e.g. 15 000 *g* not 15 000 × *g*). Also, do not use r.p.m. as the unit for gravitational force, except for ultracentrifugation, where r.p.m. is usually given together with the centrifuge model and manufacturer and the rotor code (e.g. SS34).
- En rules with **linked prepositions** (*from* and *to*; or *between* and *and*) (e.g. *between 10 and 15 days*, not *between 10–15 days*).
- m for **micron**; use μm.
- N or N (small caps) for **normal concentration**: ask authors to provide the molar concentration.
- p.p.b. for **parts per billion**; use ng/g.
- p.p.m. for **parts per million**; use mg/g.
- **Percent**. Use either % or per cent.
- A unit term as a **plural** (e.g. *10 mL was*… not *10 mL were*…).

- **Repeated** units (e.g. *between 10 days and 15 days* should be written *between 10 and 15 days*).
- **Superfluous** material in units. For example, in the expression 'organic carbon at a concentration of 56 mg C/L' the symbol for carbon is superfluous in the unit; 'organic carbon at a concentration of 56 mg/L' is sufficient.
- Lots of **zeros** in numbers. Add unit prefixes so that values are ≥ 1 and < 1000 (e.g. 0.081 g/L should be changed to 81 mg/L, and 1.67×10^{-7} m to 167 nm). However, always inform the author/editor of such changes and seek their approval.
- Expressions such as **20 mg/100 mL**; use 200 mg/L.

MISCELLANEOUS UNITS

CFU colony-forming units
Da daltons (do not use d)
IU international units
L litre; this is now preferred to l (lower-case L)
mL = millilitre = cm^3 (do not use cc)
mmHg millimetres of mercury **only** in medical work; otherwise, use pascals (1 mmHg = 133 Pa)

Unit prefixes

m	milli (10^{-3})	k	kilo (10^3)
μ	micro (10^{-6})	M	mega (10^6)
n	nano (10^{-9})	G	giga (10^9)
p	pico (10^{-12})		

MOLE AND MOLAR

It is recommended that you use **mol** for mole and **mol/L** or **mol L^{-1}** for molar. However, some styles use M for mole and M (small caps) for molar.

Key points

- There should be a **thin space** between numbers and units (e.g. *10 days*), or a **hyphen** in compound adjectives (e.g. *10-day cycle*).
- For **per**, use a solidus or a negative index, depending on journal style.
- For **quantities**, use figures (e.g. *5 mL*); for **numbers of objects** less than 10, use words (e.g. *five patients*).
- A unit term is **singular** (e.g. *10 mL was added…*).
- **Do not** use **en rules** with linked **prepositions** (e.g. *between 10 and 15 days*, not *between 10–15 days*).
- **Do not repeat units** unnecessarily (e.g. not *10 days and 15 days*).
- L for **litre** is now preferred to l.
- Use Da for **daltons**, not d.

1.7 Italics

To find out whether a word should be italicized, check the latest edition of the recommended **dictionary**. You should also refer to your **journal style sheet** for journal-specific usage (e.g. for *et al.* and variables such as *P*).

DO italicize	DO NOT italicize
Foreign language phrases that are **not** in common usage (e.g. *ad libitum*, *en bloc*, *sensu lato*). These are better presented in italics than in inverted commas.	Foreign language phrases that **are** in common usage (e.g. alias, per annum, vice versa). The fact that a word has made it into an English dictionary is a good indication that it is familiar (or at least can be looked up), so it can be set in roman.
Book and journal titles Names of parties in legal cases	Names of people (except in legal cases), places or institutions
Genus and species names (e.g. *Homo sapiens*)	Family, order and class names (e.g. Hominidae, Primates, Mammalia) Modifiers to species names (e.g. cv., var., ex., ssp.), and authorities (e.g. L.)
Abbreviations for genes (e.g. *ced-3* for the *C. elegans* cell-death gene)	Abbreviations for gene products (enzymes/ protein) (e.g. CED-3)
Symbols and abbreviations that represent variables (e.g. *x*-axis, *n*)	Symbols, abbreviations and whole words that represent constants (e.g. e, π), functions (e.g. f, exp, log) or modifiers (e.g. n_a, n_{air}).
Parentheses (like these) within italic text.	Parentheses around italic text (*like these*).
	Italic words used in italic headings (e.g. *Preparations of* P. gingivalis)

EXAMPLES

a posteriori
a priori
ad libitum
bona fide
debris
en bloc
in situ
in toto
in vitro; in vivo
inter alia
laissez-faire
levee
mise-en-oeuvre
motif
née
par excellence
per annum; per capita
post-mortem
raison d'être
role (**not** rôle)
sensu lato; sensu stricto
tour de force
via
vice versa

1.8 Quotations

Every quotation should be accompanied by a reference to its source (e.g. Author 2003).

Short quotations (< 30 words) 'should run on within the normal sentence structure' (Author 2003). Use quotation marks to distinguish the quote, and, if appropriate, precede by a comma (for shorter quotations) or a colon (for longer quotations).

Long quotations (>30 words) should be displayed.

> Displayed quotations do not require quotation marks. They should be set smaller than normal text type and indented by the normal paragraph indent, with no extra space above or below.
>
> (Author 2003)

The spelling, grammar, etc. of direct quotations is **not edited**. Check that direct quotations have not been changed by any macros that have been run on the paper. Use '[*sic*]' (always in square brackets and italic) to signify a direct quote of an error.

Direct speech is the exact quotation of another person's words. **Punctuation** should be placed **inside** the quote marks when it belongs to the quotation or before mention of the speaker.

- 'This is an important finding,' the Director-General said.
- He asked, 'Why did you do it?'

Punctuation should be placed **outside** the quote marks when it does not belong to the quotation.

- WHO declared TB 'a global emergency'.

SINGLE OR DOUBLE?

It is **UK and Australian** style to use 'single' quotation marks, with closing punctuation outside marks (unless it belongs to the quoted material), and "double" marks for quotes within quotes.

It is **US** style to use "double" quotation marks, with closing punctuation (except colons and semicolons) inside marks, and 'single' marks for quotes within quotes.

Use a thin space between single and double quotation marks if they occur next to each other.

1.9 Lists

An itemized list that is part of the text should continue the **punctuation** of the sentence that precedes it, so:

- if preceded by a **colon** the list should begin with a **lower case** letter;
- there should be a **full point** at the end of the sentence.

For long, **complicated** lists with internal sentences, each item of the list should start with an initial capital, in which case the sentence preceding the list should be rewritten to **end in a full point**.

1. Check your journal style sheet for the **style** of numbered lists. Often, a bold number followed by a tab is used. Lists within lists should be indented, and have a different style of numbering from the main list (e.g. Roman numerals).
2. Some styles have **extra space** above and below lists, but some do not.
3. Lists of definitions of **abbreviations** should be displayed or, if set in continuous text, should have individual entries separated by commas and semicolons, not equals signs (e.g. Y, young; M, middle-aged; O, old; VO, very old).

1.10 Footnotes

- See your journal style sheet for the **formatting** of footnotes. On the title page, there may be a mixture of footnotes using numbers and symbols (e.g. for author affiliations or 'correspondence' details), depending on the journal style.
- Check for **consistency** of footnote links in text/tables with the footnotes themselves.
- Footnote links should be placed **after punctuation**.
- The preferred **order** of footnote symbols (which should not be superscripted) is *, †, ‡, §, ¶ (these are doubled up if more footnotes are required, e.g. ††).
- When **superscript** numbers or letters are used, beware of potential confusion with other superscripts (e.g. ^{2} for 'squared').

IN TEXT

Footnotes in the text are not encouraged for journals that are full text online. Sometimes it may be possible to eliminate a footnote by moving the text it contains to the main body of the article, especially if the footnote is short and just adds extra details.

✗ We randomly selected 24 individuals from each of six groups.[1]
[**Footnote:** 1. Groups 3, 5, 11, 28, 30 and 34.]

✓ We randomly selected 24 individuals from each of six groups (groups 3, 5, 11, 28, 30 and 34).

- **Numbers** in the text indicating footnotes should be superscripts (do not use parentheses, punctuation or slash marks). Numbers for the notes themselves should be on the line and followed by a full point.
- When a footnote is **continued** on the next page, there should be a hairline rule above it. Avoid beginning a continued footnote with a full sentence, as this will make it look like a separate footnote.
- If the first mention of an **abbreviation** occurs in a footnote, it should be defined there.

UNDER TABLES

Footnote links. Notes about the table as a whole can be left unlinked (i.e. no linking letters/numbers/symbols) or linked to, for example, a relevant column heading. Notes about specific parts of the table should be linked using superscript lower case letters (preferred), superscript numbers or symbols (see Table 1 for examples). If lower case letters could be confused with the table data, use symbols or numbers instead. Avoid the use of superscript numbers in parentheses.

If an **abbreviation** is mentioned for the first time in a table (e.g. 'CE' in Table 1), it must be defined in a footnote to that table.

Asterisk footnotes are reserved for probability values in tables and usually signify the following values: *, $P \leq 0.05$; **, $P \leq 0.01$; ***, $P \leq 0.001$. The asterisk is often used in mathematics and should therefore be avoided as a footnote symbol.

Order

Footnote **links** within the table itself should be ordered, according to first mention, across columns by row (see [a], [b], [c] in Table 1).

The **actual footnotes** should appear in the following order:

- source notes
- other general notes
- notes on specific parts of the table (following the order in the table itself)
- notes on level of probability

Table 1. Ratios for wheat in 1989

Group[a]	First ratio	Second ratio
1	1.31	4.56
2	6.57*	33.87***
3	15.89**	17.55
4	ND[b]	2.35
5	10.66**	2.13
6	67.43***	23.56*
7[c]	1.29	ND[b]
CE	3.45	6.57*

Data were obtained from Smith (1990).
All yields were measured in April–June 1989.
CE, controlled-environment plots; ND, not done.
[a]Each group consisted of three separate plots.
[b]Pest infestation prevented data collection.
[c]The plots in Group 7 were not irrigated in April.
*$P \leq 0.05$, **$P \leq 0.01$ and ***$P \leq 0.001$, according to a *t*-test

1.11 Abbreviations

Keep the number of abbreviations in an article (particularly in the Abstract) to a **minimum**. If a term is not used often, do not use its abbreviation: it will not help readers if they have to search back through the article for its definition.

Use of abbreviations such as etc., i.e. and e.g. is best **avoided** in running text and is more suitable for use with parentheses.

Abbreviations are shortened forms of words or phrases.

Acronyms are abbreviations formed from the initial letter(s) of individual words in phrases. True acronyms serve as pronouncable words (e.g. QANTAS, ANZAC, radar); others are technically called 'initialisms' (e.g. ECG, LDL).

Contractions are abbreviations that include the first and last letters of a word (e.g. Ltd)

DEFINING ABBREVIATIONS

Some abbreviations are so **common** that they do not need defining (e.g. DNA, PCR, d.f.). Whether to spell out or not will depend on the subject matter of your journal.

Define all other abbreviations (term in full followed by abbreviation in parentheses) on **first mention** in the Abstract, text, figure legends and table legends or footnotes; thereafter, use the abbreviation only, except at the beginnings of paragraphs (it is acceptable to use abbreviations at the beginnings of sentences). If abbreviations are defined in an Abstract, they must be **redefined** at first mention in the main body of the text. Do not define or use abbreviations in titles or headings.

When defining a **series** of abbreviations in legends, use commas and semicolons (e.g. Y, young; M, middle-aged; O, old). Never use equals signs in definitions.

PUNCTUATION

Full points

- Abbreviations that are **all caps** generally do not take full points (e.g. USA, NSW), but abbreviations that are all **lower case** or end with a lower case letter do (e.g. i.v., b.i.d., Co., Ed.).
- When referring to authors by their **initials**, use full points and thin spaces [e.g. 'One of the authors (D. M. D.)…'].
- Full points are **not** used at the end of **contractions** (e.g. St, Mr, Dr, Natl, Figs, Ltd) in UK English, but they are used in US English.
- When an abbreviation that takes a full point comes at the **end of a sentence**, another full point is not necessary.

Apostrophes

An apostrophe should **not** be used when an abbreviation is pluralized, but it can be used to indicate possession.

FORMATTING

Roman type is generally used for scholarly **Latin** abbreviations (see below for some common examples). The notable exception is *et al.*, which is usually italicized.

There is no need to use capital letters in the **full term** (unless it is a proper name), even though the abbreviation might be in capital letters.

NAMES

Abbreviations should not be used for **given names** (e.g. William **not** Wm). When a person is referred to by initials only (e.g. JFK), do not use full points. **Titles** should be spelt out before last names (e.g. General Washington) but abbreviated before full names (e.g. Sen. Robert A. Taft). 'Reverend' and 'Honourable' are only spelt out when preceded by 'the'. 'Jr' and 'Sr' are set off by commas after the name.

Agencies and organizations can be abbreviated in running text, in all caps with no periods (e.g. NAACP). They should be defined at first mention as usual.

SOME COMMON EXAMPLES

For more examples, see *The Chicago Manual of Style*, the *Concise Oxford Dictionary*, *Merriam-Webster's Collegiate Dictionary* and subject-specific lists in this guide.

Ms (not Mrs or Miss)
Bro., Bros, Co., Corp., Inc., plc, Pty, Ltd (no need to spell out)
PO Box Tel.: +44 (0) 1865 240201 Fax: +44 (0) 1865 200918
ed. (editor) eds (editors) edn (edition) p. (page) pp. (pages) Suppl. (supplement) Vol. (volume)
Eqn (equation; e.g. Eqn 2) no. ('number' or 'number of')

ISSN 1023-4567 (International Standard Serial No.) ISBN 0 123 45678 9 hardback (International Standard Book No.) CIP (Cataloguing in Publication)
etc. e.g. and i.e. (use mainly in parentheses; comma before but no comma after) vs (use between numerals only; spell out in text) ca (circa: use before dates instead of ~) cf. [compare with (*confer imperative*); use only in parentheses] viz. (namely; with comma before **not** after)
r.p.m. **avoid** – ask for ***g*** value 2D (two-dimensional)

Key points

- **Define** all abbreviations (except very common ones such as DNA) at first mention in the Abstract and again in the main text.
- **Punctuate lower case** (e.g. b.i.d.) but not upper case (e.g. USA) abbreviations.
- Do not use capitals in the **full term** (e.g. LSD stands for least significant difference).

1.12 Time

DATES

- In **UK English**, dates are given in the form 24 August 1964 (24/8/64). In **US English**, the form August 24, 1964 (8/24/64) is used.
- Do **not** use **ordinal** numbers in dates (e.g. 1st, 11th, 22nd or 23rd). For **year ranges**, use an en rule and do not elide (e.g. 1995–1999 not 1995–99). Decades should be written as e.g. 1960s not 1960's or '60's.
- For **centuries**, use the form 18th century.

AD	Anno Domini (e.g. AD 1945)
BC	before Christ (e.g. 3000 BC)
BP	before present (e.g. 10 000 BP, not 10 000 years BP)

TIMES OF DAY

In UK English, the 24-hour clock is preferred (e.g. 1600 h, 16.00 hours or 16:00 h, depending on journal style). If AM and PM are used (US English), they should be small caps.

Major time zones

UT	Universal Time
UK	
BST	British Summer Time
GMT	Greenwich Mean Time
USA	
cdt	Central Daylight Saving Time
cst	Central Standard Time
edt	Eastern Daylight Saving Time
est	Eastern Standard Time
mdt	Mountain Daylight Saving Time
mst	Mountain Standard Time
pdt	Pacific Daylight Saving Time
pst	Pacific Standard Time

UNITS OF TIME

Ma	million years ago
Myr	million years
Ga	billion years ago (10^9 years)
year	year (not a or yr)
day	day (not d)

1.13 Special Characters

Special characters are characters that are **not** found on a **conventional keyboard**. These include mathematical symbols, and symbols used in linguistics and foreign languages (Greek, Latin, Arabic, Russian, Oriental languages, etc.). For more information on special characters used in linguistics and mathematics, please see the relevant sections in this guide.

BEWARE AMBIGUOUS CHARACTERS!

Care must be taken to distinguish between **upper and lower case** letters (particularly if subscripts and superscripts are used), between **Greek and other** characters and between **roman and italic** characters.

Examples

α (alpha) versus ∝ (proportional to)

d (differential) versus *d* (variable)

δ (delta) versus ∂ (partial differential)

e (exponential) versus *e* (variable)

i (letter) versus ι (iota)

k (letter) versus κ (kappa)

l (ell) versus 1 (one) versus I (capital i)

O (letter) versus 0 (zero)

p (letter) versus ρ (rho)

μ (mu) versus υ (upsilon) versus ν (nu) versus *ν* (letter v italic)

x (letter) versus × (multiplication sign) versus χ (chi)

’ (apostrophe) versus ′ (prime)

1.14 Computing Terms

- Computer and word-processing **languages** should be given as their tradenames (e.g. WordPerfect). Those that are acronyms should be given in caps (e.g. BASIC, PASCAL).
- Computer **programs** should be given in small caps (e.g. SPSS for 'Statistical Package for the Social Sciences').

Some common terms		
database	hard copy	program, programming, programmer
debug	Internet (capital I; not Net)	World Wide Web or the Web (caps)
disk	log on (verb)	website
email (no hyphen)	online (no hyphen), offline	

1.15 Currency

- **Symbols** (and **abbreviations** for non-US/UK currencies) for units of currency generally precede the figure (e.g. £58.00, $4580, €120, EUR 350). The exceptions are those written in full (e.g. 12 rupees). Use $ for $US unless other dollar types are mentioned (e.g. $A, $HK).
- In book reviews etc., **prices** should be given with values for the two decimal units after a decimal point (e.g. $A38.00 not $A38).

ct cent (**cts** cents); **$** dollar
fl. florin
kr. krone
p pence; **£** pound
¥ yen
€, **EUR** euro

- For '**million**' use 'm' (e.g. £75m); for '**billion**' use 'bn' (e.g. £75bn). Note that 'billion' means 'a million million' in UK English, but 'a thousand million' in US English.
- Use whole figures and decimals **consistently** (e.g. $4.25 and $7.00, not $4.25 and $7).
- The following EU countries are now using the **euro** (former currency in parentheses): Austria (schilling), Belgium (franc), Finland (markkaa), France (franc), Germany (mark), Greece (drachma), Ireland (punt), Italy (lira), Luxembourg (franc), the Netherlands (guilder), Portugal (escudo) and Spain (peseta).

1.16 Qualifications

Qualifications after a person's name should be listed in the following **order**.

1 **Academic** qualifications, in ascending order (e.g. BA MA PhD)
2 **Professional** qualifications (e.g.RN RM)
3 **Honorary/fellowship** qualifications (e.g. FAAN OBE)

Note that some qualifications automatically **supersede** others (e.g. to be a fellow of a college you must already be a member, so there is no point in putting MRCP if someone is also FRCP).

SCIENTIFIC/ENGINEERING/ARTS

BA or MA	Bachelor of Arts or Master of Arts; Bachelor of Science (Oxford/Cambridge)
BEng	Bachelor of Engineering
BSc	Bachelor of Science
DPhil	Doctor of Philosophy
MPhil	Master of Philosophy
MS	Master of Science (US)
MSc	Master of Science
PhD	Doctor of Philosophy

MEDICAL

BMedSci	Bachelor of Medical Science
FFARCS	Fellow of the Faculty of Anaesthetists of the Royal College of Surgeons
FFCM	Fellow of the Faculty of Community Medicine
FFOM	Fellow of the Faculty of Occupational Medicine
FRCGP	Fellow of the Royal College of General Practitioners
FRCOG	Fellow of the Royal College of Obstetricians and Gynaecologists
FRCP	Fellow of the Royal College of Physicians
FRCPath	Fellow of the Royal College of Pathologists
FRCPsych	Fellow of the Royal College of Psychiatrists
FRCS	Fellow of the Royal College of Surgeons
MB BChir	Bachelor of Medicine and Surgery
MB BS	Bachelor of Medicine and Surgery
MB ChB	Bachelor of Medicine and Surgery
MD	Doctor of Medicine

DENTAL

BChD	Bachelor of Dental Surgery
BDS	Bachelor of Dental Surgery
DDS	Doctor of Dental Surgery
MDS	Master of Dental Surgery

VETERINARY

BSc(Vet)	Bachelor of Veterinary Medicine and Surgery
BVMS	Bachelor of Veterinary Medicine and Surgery
BVM&S	Bachelor of Veterinary Medicine and Surgery
BVSc	Bachelor of Veterinary Science
MRCVS	Member of the Royal College of Veterinary Surgeons

TITLES

- Use **Dr** for physicians (i.e. medics who are not surgeons) and for scientists or others (e.g. dentists) with a doctoral degree (PhD, DPhil or DSc).
- Use **Mr/Mrs/Miss/Ms** for dentists without a doctoral degree and for surgeons.
- Use **Professor** for professors who are still working or who have retired but been made Professor Emeritus (otherwise they lose the title 'Professor' on retirement).
- Check the *Medical Directory*, *Who's Who*, etc. for **honours** such as OBE, CBE and DBE.

1.17 Organizations

Abbreviation	Organization
ANA	American Nurses Association
CERN	Conseil Européen de la Recherche Nucléaire
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSIRO	Commonwealth Scientific and Industrial Research Organization
DEFRA	Department for Environment, Food and Rural Affairs (*London*) (formerly MAFF)
DoE	Department of the Environment (*London*)
DoH	Department of Health (*London*) (formerly DHSS)
DWP	Department for Work and Pensions (*London*) [DWP was formed from the Department of Social Security (DSS) and the Department of Education and Employment]
EU	European Union (no longer EC)
HMSO	Her Majesty's Stationery Office (*London*)
ICN	International Council of Nurses
IUPAC	International Union of Pure and Applied Chemistry (*Oxford*)
NHS	National Health Service (UK)
NIH	National Institutes of Health (US)
PAHO	Pan American Health Organization
UN	United Nations [**not** UNO] (*New York*)
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization (*Paris*)
USDA	United States Department of Agriculture (*Washington, DC*)
WHO	World Health Organization (*Geneva*)

1.18 Places

COMPASS DIRECTIONS

- North-west, south-southeast, etc. should be **abbreviated** if used extensively, particularly if used as part of a compound adjective (e.g. *SW-facing slope*, *NNE-trending escarpment*). Note that north–south comes before east–west in the abbreviations.
- **Adjectives** using north, south, east or west take the forms north-east, north-eastern, northerly, northeasterly, northward and northernmost.

LATITUDE AND LONGITUDE

Use the form 44°56′N, 71°45′E (north–south first then east–west). There is no reason to use the abbreviations 'lat.' and 'long.' in front of the coordinates because the compass directions show which of the two is being given. Coordinates are usually given with an altitude (not elevation), which should be given in metres above sea level (m a.s.l.).

UK GRID REFERENCES

Use the form 'NZ 684 018'.

COUNTRIES

- Avoid the terms *America* and *North America* unless it is clear that the continent is being referred to; otherwise, use **USA** (always abbreviate; do not use *U.S.A.* or *the States*). US is used as the adjectival form of *USA* (e.g. 'US aircraft carriers stationed in the Persian Gulf').
- Use **UK** (always abbreviate). Note that *UK* = Great Britain plus Northern Ireland; *Great Britain* = England, Scotland and Wales; *the British Isles* = UK plus the Irish Republic. *UK* can be used as an adjective (e.g. 'UK harrier jets flying over the Falkland Islands').
- Use **the Netherlands** not *The Netherlands* (although a capital *T* is usually used in addresses – this rule also applies for *the Phillipines*) or *Holland* (a region).
- **Republics.** Use *China* not People's Republic of China/PRC (and *Taiwan* not Republic of China); *Korea* not Republic of Korea/ROK; *Germany* not Federal Republic of Germany/FRG; *Ireland* not Republic of Ireland (nor Eire); *South Africa* not Republic of South Africa/RSA.
- **Other**. Use *Russia*, *the Ukraine, Belarus, Georgia, Latvia, Lithuania, Estonia*, etc., not the USSR (use the *former USSR* if countries are not specified). Use the *Czech Republic* and *Slovakia*, not Czechoslovakia. Use *Bosnia and Herzegovina*, *Croatia, Serbia and Montenegro*, and *Slovenia* (or *the former Yugoslavia* if in doubt). Check the latest edition of an atlas to confirm any recent changes.

AUTHOR ADDRESSES

Institutes, street names, etc. are better given in the native tongue of the author (e.g. *Université de Lyon* should be preferred to *Lyon University*, and *Universität München* to *Munich University*). However, the names of **cities and countries** should be given in the language in which the paper is to be published.

CAPITALIZATION

- Use **initial caps** for e.g. *Western Australia*, *South West Africa* and *Northern Ireland* (proper names) but not for e.g. *southern Scotland* or *eastern India* (descriptive terms).
- When **climates or regions** are described using an adjective that is a proper name, the name is capitalized (e.g. *Mediterranean climate, Alpine region, sub-Saharan desert*).
- Northern Hemisphere, Southern Hemisphere (caps).

MISCELLANEOUS POINTS

- Use *Asia–Pacific* (en rule; not *Asian-Pacific*) and *South-East Asia* (initial caps; hyphen).
- Use *Island(s)* (do not abbreviate to *Is.*) and *River(s)* (do not abbreviate to *Riv.*).
- Use *Mount* (not *Mt*). Note that 'yama', 'dake' and several other suffixes mean *mountain* in Japanese; however, they should not be removed from the name unless it has been anglicized; check with the author or leave as supplied (e.g. Mount Tanakami-yama but Mount Fuji).

ABBREVIATIONS

American states

AK	Alaska	ID	Idaho	MT	Montana	RI	Rhode Island
AL	Alabama	IL	Illinois	NE	Nebraska	SC	South Carolina
AR	Arkansas	IN	Indiana	NC	North Carolina	SD	South Dakota
AZ	Arizona	KS	Kansas	ND	North Dakota	TN	Tennessee
CA	California	KY	Kentucky	NH	New Hampshire	TX	Texas
CO	Colorado	LA	Louisiana	NJ	New Jersey	UT	Utah
CT	Connecticut	MA	Massachusetts	NM	New Mexico	VA	Virginia
DC	District of Columbia	MD	Maryland	NV	Nevada	VT	Vermont
DE	Delaware	ME	Maine	NY	New York	WA	Washington
FL	Florida	MI	Michigan	OH	Ohio	WI	Wisconsin
GA	Georgia	MN	Minnesota	OK	Oklahoma	WV	West Virginia
HI	Hawaii	MO	Missouri	OR	Oregon	WY	Wyoming
IA	Iowa	MS	Mississippi	PA	Pennsylvania		

Canadian provinces

AB	Alberta	NU	Nunavut
BC	British Columbia	ON	Ontario
MB	Manitoba	PE	Prince Edward Island
NB	New Brunswick	QC	Quebec
NF	Newfoundland	SK	Saskatchewan
NS	Nova Scotia	YT	Yukon
NT	Northwest Territories		

Australian states

NSW	New South Wales	Tas.	Tasmania
NT	Northern Territory	Vic.	Victoria
Qld	Queensland	WA	Western Australia
SA	South Australia		

UK regions and counties

You should usually delete region and county names from UK addresses, giving only the city or town and the postcode. However, it will occasionally be necessary to give the county or region (e.g. for rural addresses).

1.19 URLs in Text

CAPITALIZATION

- For consistency and ease of reading, always type URLs and email addresses in **lower case letters** (e.g. www.blackwellpublishing.com; person@wiley.com). Both URLs and email addresses are case-insensitive, but there is a clear international trend to present both in all lower case text. In many other electronic contexts (e.g. Web searches), a capital letter represents only the capital letter, whereas the lower case letter represents both, so it seems sensible to retain the distinction for URLs and email addresses.
- There may be **exceptions** when the capitals have been used extensively in branding a website (e.g. www.GastroHep.com).

PREFERRED ADDRESSES

- '**http://**' is needed in URLs in articles so that the link becomes live on Synergy.
- The **Manuscript Central** URLs do not start with 'www', so the URL should be written in full; e.g. http://jgh.manuscriptcentral.com
- The '**www**' part of a URL doesn't appear at the start of all Web addresses, so when writing a URL that does start with 'www', it cannot be left out.
- There are a few variants of the **Company** website URLs, but the preferred versions are as follows:

  www.wiley.com

  www.blackwellpublishing.com

  www.blackwellpublishing.com/<journal acronym>

  www.blackwell-synergy.com (note the hyphen)

BREAKING A URL

- When a URL must be broken over a line in a printed work, breaking after a **slash** or **double slash** is preferable.
- Try **not** to break after a **dot**, leaving the dot at the end of the line of text. **Do not use hyphens** to break long words at the end of a line.
- A hyphen **within** a URL shouldn't appear at the end of a line.

SETTING OFF URLS FROM SURROUNDING TEXT

- **Do not** set off URLs with angle brackets, because angle brackets are used in some markup languages.
- **Do not underline** URLs in printed text.
- **Avoid** placing **punctuation** directly after a URL, as it may be unclear whether the punctuation is part of the URL.

PART 2: DEALING WITH OTHER MATERIAL

2.1 Electronic Submission

PREPARATION OF ELECTRONIC ARTWORK

- Authors should be asked to **submit** EPS (line art) or TIFF (half-tone/photographs) files only.
- For scanned images, the **scanning resolution** (at final image size) should be as follows to ensure adequate reproduction: > 800 dots per inch (d.p.i.) for line art; > 300 d.p.i. for half-tones; > 600 d.p.i. for figures containing both half-tone and line images.
- **EPS** files should be saved with fonts embedded (and with a TIFF preview if possible).
- **Black and white** images should be supplied as grayscale.
- **Colour** images should be supplied as CMYK, not RGB.
- **Multipart** figures should be supplied in the final layout in one file.
- For **further details**, see http://www.blackwellpublishing.com/bauthor/digill.asp
- The following artwork **packages** give suitable quality formats when dealing with electronic artwork and allow you to 'save as' or 'export' as TIFF and EPS, the preferred standardized formats:

  Adobe Illustrator 7.0 and above (EPS)

  Adobe Illustrator 9.0 (EPS; also export as TIFF)

  CorelDRAW 7.0 and above (EPS)

  Deneba Canvas 6.0 and above (EPS)

  Adobe Photoshop 4.0 and above (TIFF)

2.2 Disks

- **CDs** and **floppy disks** are both OK, but there is no current facility to process optical disks.
- Any word-processing format can be handled.
- The author must check that the **final version** of the hard copy and the file on the disk are the same.

2.3 Artwork

There are many journal-specific requirements for artwork, so refer to your **journal style sheet** and, if necessary, the '**Instructions for Authors**' guidelines (usually on the inside back cover of the journal). See '**Electronic Submission**' for information on electronic artwork.

GENERAL CHECKLIST

- Do the figures **match** the legends?
- What **level of intervention** is appropriate for figures in this journal? (There is always a 'cost versus quality' trade-off.)
- What **reduction** is appropriate for the figure? Consider (1) the size of any lettering and line art, and (2) the column width of the journal.

- Do you need to add **(a)**, **(b)**, **etc.** to the various parts of the figure?
- Is the text in the figure **legible** and **error-free**?
- Do any **tints**, **areas of shading, etc.** have to be redrawn? After reproduction, fine tints may become solid black, and light shading may disappear. A crude way to check whether this could be a problem is to photocopy the figure at the appropriate reduction.
- Is the figure to be processed as **colour**? If so, **special attention** needs to be paid to the authors' and editor's requirements as money is often involved! There is a requirement in some journals to minimize colour – please consult the Wiley-Blackwell production editor if you are unsure whether or not colour is acceptable.

2.4 Tables

WHEN IS A TABLE NOT A TABLE?

A **table** concisely presents numerical or factual information in a grid format. A table usually contains at least two rows (including the column headings) and two columns; otherwise the information may be better presented as a **list**. A 'table' containing graphics (e.g. arrows in a flowchart) is probably better treated as a **figure**, although occasionally figures may be embedded in tables (e.g. chemical structures); in this case, alert the typesetter to the fact that graphics need to be dropped into the table.

FORMATTING

- Make sure column headings are **aligned** (using tabs) with the entries below them.
- The first word of an entry should normally have an **initial capital**.
- Complex tables may benefit from **extra spaces** between groups of rows (see example overleaf).

EDITING

- The table **legend** should usually be treated as a title, and should stand on its own as a description of the content. It should contain only a brief, general description of what is shown in the table. Details about methods, statistics and specific parts of the table (e.g. 'Standard errors are given in parentheses') should be confined to footnotes.
- **Units** should be given in column headings, rather than repeated for every entry in the body of the table.
- Define any **abbreviations** in a footnote.
- See 'Footnotes' (1.10) for how to deal with table **footnotes**.
- Make sure that **rules** in hierarchical column headings are correct (i.e. that they span the appropriate text).
- In the column or row **headings**, authors sometimes neglect to include the top level of the hierarchy (i.e. they do not tell you what the numbers in the table actually are!). You may find that this information has been included in the legend (e.g. 'leaf dry weight' in the example table overleaf).

BEFORE...

Table 1. Leaf dry weight of three pea varieties grown at different temperatures (g). Values are given as means ($n = 30$). Within a column, means followed by the same letter are not significantly different at $P < 0.05$, using the Tukey test. Heat events were introduced at weekly intervals.

Varieties	Temperature	Days after sowing			
	Mean	HE	40	55	70
EC-12876	18°C	35°C	0.40 a	3.88 a	0.17 a
EC-12876	22°C	38°C	0.52 a	0.43 b	1.20 b
EC-12876	25°C	38°C	1.35 b	5.36 a	4.20 c
P-116	18°C	35°C	0.54 a	0.48b	1.99 b
P-116	22°C	38°C	0.75 a	1.25b	1.56 b
P-116	25°C	38°C	0.22 a	2.07b	1.43 b
T-163	18°C	35°C	0.08 a	0.12a	0.97 a
T-163	22°C	38°C	2.34 c	2.44a	1.67 b
T-163	25°C	35°C	0.31 a	0.29 a	3.30c

...AND AFTER

Table 1. Leaf dry weights of three pea varieties grown at different temperatures.

			Leaf dry weight (g)		
	Temperature (°C)		Days after sowing		
Variety	Mean	HE	40	55	70
EC-12876	18	35	0.40 a	3.88 a	0.17 a
	22	38	0.52 a	0.43 b	1.20 b
	25	38	1.35 b	5.36 a	4.20 c
P-116	18	35	0.54 a	0.48 b	1.99 b
	22	38	0.75 a	1.25 b	1.56 b
	25	38	0.22 a	2.07 b	1.43 b
T-163	18	35	0.08 a	0.12 a	0.97 a
	22	38	2.34 c	2.44 a	1.67 b
	25	35	0.31 a	0.29 a	3.30 c

Values are given as means ($n = 30$).
HE, heat event (introduced at weekly intervals).
Within a column, means followed by the same letter are not significantly different at $P < 0.05$, using the Tukey test.

2.5 References

Check your **journal style sheet** for how to style references in the list and their citations in the text. In general, there are two main systems, **Harvard** and **Vancouver**, although there are some hybrids with features of both styles (e.g. alphabetical Vancouver).

HARVARD

Citations in the text take the form of **author names and dates** (e.g. Smith *et al.* 1990), and references in the list are sorted alphabetically by **author name**.

In the text

Sort references in the text **chronologically** (e.g. Smith 1990; Jones 1995), and **then alphabetically** within dates (e.g. Smith 1990; Brown 2001; Walton 2001).

For references with **three or more authors**, use the first author's name and '*et al.*' in the text (e.g. Smith *et al.* 1990).

In the list

Sort references in the list **alphabetically** by first author, then by **number of authors** (one; two; three or more), then chronologically within the **one-author** group, alphabetically within the **two-author** group, and chronologically within the ≥ **three-author** group:

Smedley, P. (2002)

Smith, G. (1983)

Smith, G. (2001)

Smith, G. and Jones, B.N. (1997)

Smith, G. and Stevens, D. (1996)

Smith, G., Wheeler, A., Lawrie, S. and von Hoffman, C. (1992)

Smith, G., McDonald, D.W. and Jones, B.N. (1994)

If two or more references have the **same first author and date**, you must use 'a', 'b', etc. after the date to distinguish them (e.g. Smith *et al.* 1990a). **NB** For two-author references, you need only do this if **both** authors are the same.

Lower case **particles** are listed under the letter of the name proper but upper case particles under the letter of the particle (e.g. da Silva under 'S' but Von Trapp under 'V').

VANCOUVER

- In **straight Vancouver**, references are numbered sequentially as they occur in the text. Citations in the text take the form of superscript or parenthetical **numbers**, which refer the reader to the references in the list. References in the list are ordered according to these **numbers**.
- In **alphabetical Vancouver**, the references are ordered **alphabetically** in the list and **then numbered**, and it is these numbers that appear in the text (so they will be out of sequence in the text; e.g. reference 51 might come before reference 6).

In the text

Reference numbers are set as **superscripts** or within **brackets** (usually square brackets), depending on the journal style. Superscripts should appear after,[1] and square brackets within [1], punctuation. Use en rules for ranges; e.g. [1,2,3,4] becomes [1–4] and [24,25,26] becomes [24–26].

In the list

Numbers in the list are set **on the line**.

1 Smith G, 1990

2 Author CD, 2001

EXAMPLES OF REFERENCE LIST STYLE

Check your **journal style sheet** for the style you should follow. These are just **examples**.

Article in journal

Author, A.B. & Author, B.C. (2000) Title of article. *Journal Title in Italics in Full*, **00** (**Suppl. 2**), 000–000.

Author, A.B. & Author, B.C. (2003) Title of article. *Journal Title in Italics in Full*, in press.

Article within conference proceedings or book

Author, A., Author, B., Author, C. *et al.* [if e.g. > 6] (2002) Title of article. In: A. G. Smith & C. H. Jones (eds), *Conference or Book Title in Italics*, pp. 000–000. Publisher, City.

Book or conference proceedings

Smith, A.G. & Jones, C.H. (eds) (2002) *Conference or Book Title in Italics*. Publisher, City.

Book-Author, T. (1997) *Book Title*. Publisher, City.

Court cases

Adkins v Thomas Solvent Co., 440 Mich 293, 487 NW2d 715 (Mich 1992).

DOIs (digital object identifiers)

Mazmanian, S. K., Ton-That, H. & Schneewind, O. (2001) Sortase-catalysed anchoring of surface proteins to the cell wall of *Staphylococcus aureus*. *Molecular Microbiology*, **40**, 1049–1057. doi:10.1046/j.1365-2958.2001.02411.x

Government departments

Use the Department as the author, and The Stationery Office (HMSO before mid-1997), London as the publisher.

Department of Health (1993) *Caring for People: Community Care in the Next Decade and Beyond*. HMSO, London.

Institutions cited as authors

Institutions cited as authors should be given in abbreviated form where referred to in the text (e.g. WHO 1989) and in abbreviated form (for the authors) and in full (for the publisher) in the reference list:

WHO (1989) *Fisheries Handbook*. World Health Organization, Geneva.

Newspapers

Cracknell, D. and Porter, A. Brown set for new tax bombshell. *Sunday Times*, 31 August 2003, p.1.

Thesis

Author, J. (2002) Title of thesis. PhD Thesis, University, City.

URLs

Full reference details must be given along with the URL, i.e. authorship, year, title of document/report and URL. If this information is not available, the reference should be removed and only the web address cited in the text.

Smith A. (1999) *Select committee report into social care in the community* [WWW document]. URL http://www.dhss.gov.uk/reports/report015285.html [accessed on 7 November 2003]

UNPUBLISHED REFERENCES

Unpublished references should only appear **in the list** if they are '**in press**'. Otherwise, they should be cited **in the text only**, and should give the authors' names and (unless one of the authors is also an author of the present article) their main institution and city to enable the reader to trace them (do **not** give the article title or other details). Use e.g. 'unpublished results', 'manuscript in preparation' (in prep.), 'personal communication' (pers. comm.) or 'personal observations' (pers. obs.) depending on the context (e.g. authors of the present article can't make a personal communication with themselves!) and the journal style.

- ...was also found to be effective (S. Smith, University of Cardiff, Cardiff, unpublished results).

GENERAL RULES

- **Avoid** *in litt.* and *op. cit.* Use e.g. '(Jones *et al.* 1958, cited in Smith 1990)'.
- **Avoid** *ibid.* (*ibidem*, as above) in the text and the list. The full details should be repeated.
- **Initials** should be spaced when they occur before the surname and closed up when they occur after it.
- **Jr, III,** etc. go after the name and initials in both the text and the list (e.g. A. B. Author Jr; Author A.B., III).
- Do **not** give the **total page extents** of books and theses in the list.
- Refer to the *Index Medicus* or the *World List of Scientific Periodicals* for the correct way to **abbreviate** a journal title.

CHECKING REFERENCES

References can be checked at the following sites:

- **Pubmed:** www.ncbi.nlm.nih.gov/entrez/query/static/citmatch.html
- **Medline:** http://intapp.medscape.com/px/medlineapp/medline?cid=med&adv=1

2.6 Commercial Products

Any commercial product mentioned in the text (e.g. equipment, drugs or computer software) should be accompanied at **first mention** by the name, city and (US) state/country of the company that made it (usually in parentheses). Add a query to the author if this information is missing.

- …incubated in the basal broth medium Easy-Grow (Biology Solutions, Boston, MA, USA)…

2.7 Permissions

- Authors must have written permission to reproduce **figures, tables or any other material from another source**. This also applies to **data** from which a figure or table has been produced. If you suspect that an author has taken material from another source, but either has not acknowledged this or has supplied incomplete information, add a query (we assume that authors have followed their responsibility to seek permission – refer them to our Copyright Assignment Form).
- **Acknowledge sources** in figure and table legends in the format 'Reproduced from Smith *et al.* (1990), with permission from Mercat Press'. Some publishers may require the use of a particular copyright line. Make sure that there is a **reference** to the source of the material – ask the author to supply one if there is not.
- **Photographs** of equipment or company products should be checked for reference to the manufacturer. It may be necessary to obtain permission for their use, particularly if the product is referred to in a negative light.

2.8 Appendices

Appendices contain **extra material** (usually tables, lists, equations or lengthy sections of text) and should be placed at the very end of the article.

- The **style** of appendices varies from journal to journal, but generally they are headed e.g. 'Appendix 1' and cited in the main body of the text as you would cite a figure or table. Equations in appendices are numbered separately (e.g. Eqn A1, etc.).
- An appendix may have its own **reference list**.
- **Supplementary material** (in the online publication) is now replacing appendices in many journals.

PART 3: SUBJECT-SPECIFIC STYLES

3.1 Scientific Names

The scientific name of a species is known as a **binomen** (zoology) or **binomial** (botany). There are differences in the naming conventions of animals, plants, bacteria and viruses (see *Scientific Style and Format* for detailed naming conventions and style for each kingdom, or the individual codes – listed below), but below are the basic guidelines.

International Code of Zoological Nomenclature

International Code of Botanical Nomenclature

International Code of Nomenclature for Cultivated Plants

International Code of Nomenclature of Bacteria

International Code of Virus Classification and Nomenclature

- **Genus and species** names are presented in italics (e.g. *Caenorhabditis elegans*) and they have singular endings. **Higher taxa** (i.e. family, order, class, phylum and kingdom) are set in roman type with an initial capital (e.g. Coleoptera, Insecta and Rosaceae). These taxa have plural endings.
- **Modifiers** to species names are presented in roman after the species name and are always abbreviated.
- **Spell out** genus and species names in full at the first citation in the Abstract and text (e.g. *Bufo marinus*); **abbreviate** genus names thereafter (e.g. *B. marinus* – note the full point and thin space after the abbreviated genus name). However, use the full name at the start of paragraphs, in tables, and whenever there could be ambiguity if the abbreviated name is used. If two genera with the same initial letter are referred to, it may be beneficial to use partial genus abbreviations (e.g. *Picea abies* → *Pi. abies* and *Pinus sylvestris* → *P. sylvestris*; *Staph. aureus* and *Strep. faecalis*). Alternatively, use the full name to make it clear which genus each species belongs to. If a new species of the same genus as another, already cited species is introduced, the full name of the new species (i.e. repeat the genus name) should be given at its first citation (e.g. if *Xenopus laevis* has already been named, you still need to spell out *Xenopus* at the first mention of *Xenopus tropicalis*).
- Adjectives and nouns **derived** from genus names become roman with a lower case initial (e.g. *Felis* → feline, *Libellula* → libellulids, *Streptococcus* → streptococcal infection). Those derived from higher taxonomic groups also begin with a lower case letter and are presented in roman (e.g. Ostracoda → ostracods, Cactaceae → cacti).
- A scientific name given at its first mention **after a vernacular name** should be separated from it by a comma if the two names are exact synonyms (e.g. …the two-spotted cricket, *Gryllus bimaculatus*,…) but not if the vernacular name may apply to more than one species (e.g. the starfish *Asterina pectinifera*, the medaka *Oryzias latipes*).
- The genus name is sometimes referred to **alone**, even in titles (e.g. *Xenopus, Asterina*), but the species name cannot be (*laevis, pectinifera*). Species within a genus can be referred to in general terms by the abbreviations sp. (singular) or spp. (plural) after the genus name (e.g. *Xenopus* sp.).

Common modifiers

ssp.	subspecies	**sp. n.**	species nova
cv.	cultivar	**var.**	variety
×	cross (hybrid)		

AUTHORITIES

The 'authority' of a scientific name is the **name of the person** who originally classified the species. It is particularly important to include the authority if there is some controversy about the classification.

L. (Linnaeus)	the most well-known authority (e.g. *Parage aegeria* L.)
gen. & sp. indet.	'genus and species indeterminate' (no need to define)

- The authority should be given at **first mention** of the species, set in roman after the scientific name (e.g. *Anthomyza elbergi* Andersson). Alternatively, a reference may be cited.
- If a **date** of classification is given with the authority, it should be separated from the authority by a comma (e.g. *Anthomyza bellatrix* Roháçek, 1984).
- When a species or subspecies is **transferred** to a genus other than that in which it was first classified, the original authority is placed in parentheses. In botany and microbiology, the authority of the new combination follows and is not placed in parentheses [e.g. *Calluna vulgaris* (L.) Hull, *Shigella dysenteriae* (Shiga) Castellani & Chalmers]. In zoology, the authority of the new combination is not given [e.g. *Lepomis gulosus* (Cuvier)].

BACTERIA NAMES

- Names of **all** bacterial taxa are **italicized** [e.g. *Pseudomonadales* (order), *Pseudomonadaceae* (family), *Pseudomonas* (genus), etc.].
- Some organisms that cannot be differentiated taxonomically at the level of subspecies are given the **infrasubspecific designations** pathovars (pv.), biovars (b.), serovars (sv.), phagovars, chemovars and morphovars.
- **Vernacular** names of bacteria are always set in roman lower case (e.g. mycobacteria, salmonella, klebsiellae).

VIRUS NAMES

- Virus names **end** in *virales* (order), *viridae* (family) *virinae* (subfamily) and *virus* (genus). They do **not** follow normal binomial naming.
- **Approved** (by the International Committee on Taxonomy of Viruses) international names for orders, families, subfamilies and genera are set in italics with initial capitalization. The name of the taxon should precede the term in formal use (e.g. the family *Paramyxoviridae*, the genus *Orthopoxvirus*).
- Names that have **not yet been approved** and **vernacular** names are set in lower case roman (e.g. maize dwarf mosaic virus, herpes simplex virus type I, rhabdovirus, yellow fever virus). Virus names are also set in roman when used in an adjectival form. Be careful not to jump hierarchical levels in vernacular usage (because it is not always easy to identify which level is being referred to): add taxon identification wherever needed.
- The first letter of a **proper noun or proper adjective** incorporated into the name of a virus is capitalized (e.g. West Nile virus). If part of the vernacular name incorporates a **Latin name**, the Latin name is capitalized and italicized.

RECOMMENDED TEXTS

Council of Biology Editors (1994) *Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers*, 6th edn. Cambridge University Press, Cambridge.

3.2 Aquaculture and Veterinary Science

AQUACULTURE

Names of **organisms** should be given in full, i.e. common name and Latin name with authority, when cited for the first time. Latin names should be given in italics.

Use of **parentheses** in scientific names follows strict protocols, and generally what is supplied will be correct [e.g. *Boops boops* (L.) but *Gadus morhua* L.].

Common terms

a.s.l.	above sea level
m.s.l.	mean sea level
CPUE	catch per unit effort
fish	plural for one species
fishes	plural for multiple species

I	index
I_G	gonado-somatic index
I_H	hepato-somatic index
L	length
L_F	fork length
L_S	standard length
L_T	total length

RECOMMENDED TEXTS

American Fisheries Society Special Publication No. 20, *A List of Common and Scientific Names of Fishes from the United States and Canada.*

For fishes occurring in British waters, give precedence to Wheeler A. (1992) A list of the common and scientific names of fishes of the British Isles. *Journal of Fish Biology* **41**, Supplement A.

www.fishbase.org

VETERINARY SCIENCE

Common abbreviations

ALS	advanced life support
CI	cardiac index
CO	cardiac output
CPCR	cardiopulmonary cerebral resuscitation
CVP	central venous pressure
DAP	diastolic arterial pressure
DSH	Domestic Short Hair
$F_E'CO_2$	end tidal carbon dioxide
FeLV	feline leukemia virus
FHV-1	feline herpes virus
FIV	feline immunodeficiency virus
g	**not** rpm or rev min^{-1}
H&E	haemotoxylin and eosin stain
IO	intraosseus
IOP	intraocular pressure

IT	intratracheal
LDPI	laser Doppler perfusion imaging
MAP	mean arterial pressure
MHC	major histocompatibility complex
OD	optical density
OD	right eye
OS	left eye
OU	both eyes
$PACO_2$	partial pressure of alveolar carbon dioxide
$PaCO_2$	partial pressure of arterial carbon dioxide
PV	papillomaviruses
PVR	pulmonary vascular resistance
RAU	relative antibody unit
SAP	systolic arterial pressure
SVR	systemic vascular resistance
w/v	weight/volume

- Q12 hours, Q8 hours, Q24 hours (every 12 hours, every 8 hours, every 24 hours)

3.3 Linguistics

Follow either the style of the Modern Language Association (MLA) or that of the American Psychological Association (APA):

- http://www.apastyle.org/aboutstyle.html
- http://www.mla.org

3.4 Business, Economics, Maths and Statistics

BUSINESS AND ECONOMICS

Common terms

APT arbitrage pricing theory
the Bank of England (also just 'the Bank')
BEA Bureau of Economic Analysis
Bear-Sterns
below-market performers
bertrand competition
book-to-market adjustments
buy-and-hold strategy
CAP Common Agricultural Policy
CPI consumer price index
cut-and-run behaviour (**but** to cut and run)
DAX100
DF Dickey–Fuller test
DTI Department of Trade and Industry
ECB European Central Bank
EMU European Monetary Union
EPO European Patent Office
ERM exchange rate mechanism
formulas (**not** formulae)
FTSE100
GATT general agreement on trade and tariffs
GDP gross domestic product
GNP gross national product
IMF International Monetary Fund
IRPP Institute for Research on Public Policy
London's Seaq
London Stock Exchange
LOOP law of one price
Nasdaq
Nikkei 225
NYSE New York Stock Exchange
OECD Organisation for Economic Co-operation and Development
OPEC Organisation of the Petroleum Exporting Countries
ROW rest of world
RPI Retail Price Index (in UK)
RTAs regional trade agreements
S&L
S&P 500
SEC Securities and Exchange Commission
spillover (n.)
spin-off (n.)
t-statistics
t-value
takeoff (n.)
tip-off (n.)
trade-off (n.)
turnover (n.); turn over (v.)
VAR vector autoregression
WTO World Trade Organisation

MATHS

Equations

- **Simple** equations should run on in the text and should be punctuated as part of the sentence (e.g.'...was calculated as $h = a + B_2$'). **Complex** equations should be displayed for clarity. Note that reactions and inequalities should be neither referred to nor numbered as equations.
- Even for displayed equations, **definitions** of symbols should run on in the normal sentence structure within the text:

  $s = 1 - [n(2 + y)]$,

  where s is the growth rate, n is the number of cells...

- The order of **brackets** should be <{[( )]}>.
- If an equation (displayed) runs over more than one line, **line breaks** should occur before a relational sign (i.e. =, >, ⊃, ∉, ∝, etc.). The turnover line should then be aligned with previous relational signs. Breaks can also occur before operational signs (i.e. +, –, ±, ×, ÷, ∑, etc.); the turnover line then aligns to the right of the relational sign.
- Operational and relational **signs** have **fixed thin spaces** on either side of them (e.g. $x + y$).
- **Fractions** in run-on equations can be represented by use of a solidus [e.g. $x/(y + 1)$] to prevent disruption to the line of text above. Parentheses often need to be added when converting fractions to the solidus form.
- The **radical** (root sign) is set using the symbol (√) or a superscript index ($^{-1/2}$), rather than taking a line (vinculum) across the whole equation. This is most important in run-on equations to prevent disruption to the line of text above.

Formatting

For	Use	Examples
Variables	Italics	x-axis, n, χ^2
Constants	Roman	e, π
Functions and operators	Roman	f, exp, log, sin
Modifiers	Roman, subscript	d_{E}, n_{a}, n_{air}
Scalars	Italics	*A, V, M*
Vectors	Italics, bold (sometimes arrow over letter)	***a, AB, eb***
Tensors	Sans serif, italics	***T, T:S***

Functions and operators

ad	adjoint	GL	general linear	s.t.	subject to
arg	argument	inf	infimum	sin	sine
cos	cosine	lim	limit	sinh	hyperbolic sine
cosh	hyperbolic cosine	ln	natural logarithm	sup	supremum
cov	covariance	log	logarithm	tan	tangent
det	determinant	max	maximum	tanh	hyperbolic tangent
dim	dimension	min	minimum	tr	trace
E	expectation	mod	modulus	var	variance
EU	expected utility	prob	probability	trn	transition
exp	exponential				

STATISTICS

Statistical tests

ANOVA (analysis of variance)	*F*-test	Student's *t*-test
ANCOVA (analysis of covariance)	Mann–Whitney *U*-test	χ^2-test (chi-squared test)
MANOVA (multiple analysis of variance)		

Common abbreviations

CI	confidence interval	OR	odds ratio
CL	confidence limits	*P*	probability (always abbreviate)
d.f.	degrees of freedom	*r*	coeffient of variation
F	variance ratio	RMS	root mean square
$F_{x,y}$	variance ratio, where *x* and *y* are d.f.	SD	standard deviation
LSD	least significant difference	SE	standard error
n	number of observations	SEM	standard error of the mean
ND	not done	$\overline{x}$	average/mean
NS	not significant		

RECOMMENDED TEXTS

AMS (1986) *Mathematics into Type* (rev. edn). American Mathematical Society, Providence, RI.

3.5 Computing and Engineering

COMPUTING

Programming languages should be given in CAPS; **software** names in SMALL CAPS.

Common terms

Apple	email	MS-DOS
BASIC	FORTRAN	PASCAL
BIOSYS-1	GenBank	PAUP
BLAST, BLASTX	GLM	program
CD-ROM	Google	Prolog
CELLSIM	IBM	SPSS
CLUSTALX	Internet	TreeView
COBOL	Lotus 1-2-3	URL
DECORANA	Macintosh	WordPerfect
disk	MEDLINE	

Microsoft

Access

Excel

Outlook

PowerPoint

Word

ENGINEERING

Common terms

COD	crack opening displacement	LBB	leak-before-break
EIFS	equivalent initial flaw size	LCF	low cycle fatigue
ERS	enhanced reference stress	RS	reference stress
FEM	finite element method	SCF	stress concentration factor
HCF	high cycle fatigue	SEM	scanning electron microscope

3.6 Law

- The official title of the **Supreme Court** is the Supreme Court of the United States. US Supreme Court is acceptable. Supreme Court is also acceptable if the context is clear (e.g. the article does not make frequent references to state supreme or other courts). Do not use United States Supreme Court.

- **Washington, D.C.** – use comma and periods.
- **Case names** should be in italics.

Initial capitals	Lower case
Court, Bench, Justice, Term, Brethren and Chambers when referring to the **Supreme Court**	court in references to **lower courts**
Attorney General, Solicitor General, President, Vice President and **Cabinet-level** titles	ambassador, judge, assistant attorney general, etc. – i.e. any national position **under Cabinet level**; any state position
Progressive Era, Federalist, Anti-Federalist and Prohibition	presidents or chairmen of commissions or companies
Framers of the Constitution and Founding Fathers	'party' when referring to a political party
Amendments to the Constitution and clauses within the Constitution (e.g. First Amendment, Commerce Clause)	government and parliamentary as adjectives

Useful websites

Modern Law Review website: http://www.lse.ac.uk/collections/law/modernLawReview.htm
http://www.law.buffalo.edu/baldycenter/styleinfo.html
http://dictionary.law.com/

3.7 Life and Physical Sciences

Note: for general biology, see also general medicine.

CHEMISTRY/BIOCHEMISTRY

Common terms

C4, C3	carbon-4 pathway, carbon-3 pathway
chlorophyll *a, b, c*	
cis-	same side
D	dextro
fac-	facial
fMet	formylmethionine
G_1, G_0,	
S, G_2, M	phases of cell cycle
gem-	geminal
Hb	haemoglobin
K_m	Michaelis constant
L	laevo
m	meta
M	molar
mer-	meridional
N	normal concentration
n	normo
N	substituted nitrogen **but** N-terminus, C-terminus
o	ortho
O	sub-oxygen
p	para
P680	photosystem II [photosynthesis]
P700	photosystem I [photosynthesis]
PGA_1/PGA_2	prostaglandin A_1/A_2
P_i	inorganic orthophosphate
p*K*, pH	
R	recto
S	sinister
T_4	bacteriophage
trans	opposite side
vic-	vicinal
V_{max}	maximal rate
v/v	volume in volume
w/v	weight in volume

Useful website

- **Standard nomenclature and symbols** can be found at: http://www.chem.qmw.ac.uk/iubmb/nomenclature/

ECOLOGY

Vegetation classifications/plant community assemblages

- The **UK National Vegetation Classification (NVC) scheme** (co-ordinated by J. S. Rodwell) uses an en rule between species names, which are italicized (e.g. *Phragmites australis*–*Peucedanum palustre* tall herb fen).
- The **phytosociological classifications (continental European) scheme** (J. Braun-Blanquet) uses a hyphen between class names, which are not italicized (e.g. Class Oxycocco-Sphangetea, Order Sphagnetalia magellanici, Alliance Sphagnion magellanici, and Pallavicinio-Sphagnetum).

Common terms

blowdowns
capture–mark–recapture
cold-water species
DEFRA, Department of Agriculture, Food and Rural Affairs (was MAFF, Ministry of Agriculture, Fisheries and Food)
flood-plain alder forests (**but** 'on the floodplain')
medium- and high-light treatments
nutrient-poor or nutrient-rich habitats
plant functional type (PFT)
post-dispersal
quadrat, **not** quadrate
relative growth rate (RGR)
root : shoot ratio
root–shoot allocation
semi-arid
semi-natural
subalpine
sub-blocks
subpopulation
tree line (not tree-line or treeline)

GENETICS

For	Use	Examples
Gene abbreviations	Italics	*lacA*, *amp*^{r}
Protein abbreviations	Roman	LacA
Phenotypes	Roman	Lac^{+}
Transposons	Roman	Tn5

- Restriction endonucleases: *Hin*dIII, *Hin*fI, *Eco*RI, *Mbo*I, etc.
- Strains of mice: BALB/c, C57B1/6, BD/V, BD/IX, LEW, etc.
- Always abbreviate: mtDNA, mRNA, rRNA, tRNA
- *R388*::Tn1721 represents transposon Tn 1721 encoding gene *R388*
- Chromosome locations: 6q22-24, 11p15.5
- DNA sequence: 5′-ATCGGAG-3′

Common terms

AFLP	amplified fragment length polymorphism
bp	base pairs
BLAST	basic linear alignment sequence tool
bloodmeal	**not** blood meal
CAPS	cleaved amplified polymorphic sequence
Da	daltons (not d)
FISH	fluorescence *in situ* hybridization
F_1	first filial generation
F_2	second filial generation
$(GATA)_4$	key genetic sequence
GBA	genetic bit analysis
H_E	expected heterozygosity
H_O	observed heterozygosity
IAM	infinite allele model
ITS	internal transcribed spacer
kb	kilobases (e.g. 10.3-kb fragment)
Mb	megabase (a unit of length for DNA fragments)
M_r	relative molecular mass
N_e, N_em	Nei's value
ORF	open reading frame
PAGE	polyacrylamide gel electrophoresis
PCR	polymerase chain reaction
QTL	quantitative trait loci
r	recombinant (e.g. *lac*^{r})
RAPD	random amplified polymorphic DNA
RecA–	recombinant strain; **but** *recA* is a gene
RFLP	restriction fragment length polymorphism
RT	reverse transcriptase
SMM	stepwise-mutation model
SNP	single nucleotide polymorphism
SPAR	single primer amplification reaction
ssDNA	single-stranded DNA
SSOP	sequence-specific oligonucleotide probes
SSP	sequence-specific primers
SSR	single sequence repeat
Tc^R, Ap^R	antibiotic resistance
TDT	transmission/disequilibrium test
TGF	transforming growth factor
UTR	untranslated region

Useful websites

- Birgid Schlindwein's Hypermedia Glossary of Genetic Terms: http://hal.weihenstephan.de/genglos/asp/genreq.asp?list=1
- The Laboratory of Statistical Genetics at Rockefeller University: http://linkage.rockefeller.edu/wli/glossary/genetics.html
- National Genome Research Institute: http://www.genome.gov/glossary.cfm

GEOLOGY

Websites for glossaries

http://college.hmco.com/geology/resources/geologylink/glossary.html
http://www.evcforum.net/WebPages/Glossary_Geology.html

PLANT SCIENCES

Light

In general, use units based on **energy** for heat or energy balance; use units based on **photons** for photochemical processes such as photosynthesis or photomorphogenesis. The **waveband** over which measurements are made should be specified [e.g. energy fluence rate (irradiance) of 650 W m^{-2} over the waveband 300–1000 nm; photosynthetic photon fluence rate (PPFR) of 720 μmol m^{-2} s^{-1} over the waveband 400–700 nm].

Units based on photons or energy

Recommended nomenclature	Units	Near-equivalent terms
Based on **photons**		
Quantity of photons	mol	
Photon fluence	mol m^{-2}	Photon density
Photon rate	mol s^{-1}	Photon flow; Photon flux
Photon fluence rate	mol m^{-2} s^{-1}	Photon flux density; Photon irradiance
Based on **energy**		
Radiant energy	J (W s)	
Energy fluence	J m^{-2} (W s m^{-2})	Energy density
Energy rate	J s^{-1} (W)	Energy flow; Energy flux; Radiant flux
Energy fluence rate	J m^{-2} s^{-1} (W m^{-2})	Irradiance; Energy flux density Radiant flux density

Common terms

chlorophyll *a* and *b* or Chl *a* and *b*
cytochrome *c* or cyt *c*
d. wt dry weight
EDTA ethylenediaminetetraacetic acid
f. wt fresh weight
F_o initial fluorescence
$F_V : F_M$ the ratio of variable to maximum fluorescence
g_c stomatal conductance to CO_2
g_s stomatal conductance to water vapour
glasshouse or controlled environment room **not** greenhouse
HPLC high-performance liquid chromatography
mycorrhiza formation or mycorrhiza development **not** mycorrhization
mycorrhizas **not** mycorrihae for plural of mycorrhiza
PAR photosynthetically active radiation
photo usually closed up (e.g. photoprotective, not photo-protective)
PSI photosystem I
PSII photosystem II
UV-A, UV-B **not** UVA, UVB
vesicular–arbuscular
WUE water-use efficiency
xanthi (always roman)

Soil classifications

The names of units of the **USDA *Soil Taxonomy*** should begin with upper case initials. The hierarchy is as follows:

Order (e.g. Spodosols)
Suborder (e.g. Orthods)
Great Groups (e.g. Fragiorthods)
Subgroups (e.g. Typic Fragiorthods)
Families
Series

The **FAO/UNESCO *Soil Map of the World*** is divided into World Classes (e.g. Fluvisols, Lithosols, Podzols, Redzinas, Chernozems, Phaeozems), which are divided into Soil Units.

3.8 Medicine

GENERAL MEDICINE

Drug names have recently changed; most now take American spellings (e.g. ganciclovir, not gancyclovir), with very different original names in brackets [e.g. epinephrine (adrenaline)].

Common terms

α-interferon, γ-interferon **but** IFN-α, IFN-γ when abbreviated
AIDS acquired immunodeficiency syndrome
BNF British National Formulary
BSA bovine serum albumin
BU Bethesda units
CHD coronary heart disease
CNS central nervous system
COPD chronic obstructive pulmonary disorder
c.p.m. counts per minute
CSF cerebrospinal fluid
CT computed tomography
CVD cerebrovascular disease
DBP diastolic blood pressure
DMEM Dulbecco's modified Eagle's minimal essential medium
dose–response curve
EBSS Eisen's balanced salt solution
EBV Epstein–Barr virus
EC Enzyme Commission
EC effective concentration
ECL enhanced chemiluminescence
ED_{50} 50% effective dose
EDTA ethylenediaminetetraacetic acid
EEG electroencephalogram
EGTA ethyleneglycoltetraacetic acid
ELISA enzyme-linked immunosorbent assay
EMBL European Molecular Biology Laboratory
Escherichia coli (E. coli)
FACS fluorescence-activated cell sorter (FACScan)
FasL Fas ligand
FB fast blue
FCA Freund's complete adjuvant
FCS fetal calf serum
FDA Food and Drug Administration (US)
FITC fluorescein isothiocyanate
GI gastrointestinal
HAART highly active antiretroviral therapy
haematoma/hamartoma are **often confused**
H&E haematoxylin and eosin
HDL high-density lipoprotein
HIV human immunodeficiency virus
HPLC high-performance liquid chromatography
hyperkalaemic
ICU intensive care unit
IDDM insulin-dependent diabetes mellitus (but WHO recommends use of the term 'type 1 diabetes' instead)
Ig immunoglobulin
IL interleukin
i.m. intramuscular(ly)
INR international normalized ratio
IU international units
i.v. intravenous(ly)
LD_{50} lethal dose 50%
LDL low-density lipoprotein
LOS, LES lower (o)esophageal sphincter
LPS lipopolysaccharide
mAb monoclonal antibody
MEM minimal essential medium
mmHg
MW molecular weight
NICE National Institute for Clinical Excellence
NOS nitric oxide synthase
NSAID nonsteroidal anti-inflammatory drug
OD optical density
PBMC peripheral blood mononuclear cells
PBS phosphate-buffered saline
PCR polymerase chain reaction
PET positron emission tomography
PGA_1 prostaglandin A_1
p.o. *per os* (orally)
PRP platelet-rich plasma
q.d.s./q.i.d. four times daily
QoL quality of life
RNAse (**not** RNase) deoxyribonuclease
RPMI-1640 (no need to define)
RR relative risk
SBP systolic blood pressure
s.c. subcutaneous(ly)
t.d.s./t.i.d. three times daily
TEQ toxic equivalents
TG triglyceride
TNF tumour necrosis factor (usually a)
tumour stages: stage I, stage II, etc.
VCAM vascular cell adhesion molecule
VF ventricular fibrillation
w/v weight/volume
X ray (n.), X-ray (v., adj.)

ANAESTHESIOLOGY

Variables

C	concentration in liquid
F	fractional concentration
P	pressure
Q	volume (blood)
V	volume (gas)

Gas modifiers (subscript)

A	alveolar
B	barometric
D	deadspace
E	expired
I	inspired
T	total (tidal)

General modifiers

.	first time derivative
¯	mean (over variable)
¯	mixed (over gas)
´	end value

Blood modifiers (subscript)

a	arterial
b	blood (general)
c	capillary
p	pulmonary
s	shunt
t	total (of CO)
v	venous

Examples

$\bar{P}_a$ mean arterial pressure

$\dot{V}_{CO_2}$ production rate of CO_2

$P_{A}N_2$ pressure of N_2 in alveolar gas

$F_{E}CO_2$ fraction CO_2 in mixed expired gas

$C_{\bar{a}\cdot O_2}$ end-tidal O_2 concentration in arterial blood

Common terms

ARDS	Acute Respiratory Distress Syndrome (use initial caps for full term)
b min^{-1}	**not** bpm
CBF	cerebral blood flow
CPP	cardiopulmonary pressure
CPR	cardiopulmonary resuscitation
endtidal	**not** end tidal
EPS	electrophysiological studies
epinephrine **not** adrenaline	
FEV_1	forced expiratory volume in 1 s
FVC	forced vital capacity
HR	heart rate
IPPV	intermittent positive pressure ventilation
IRDS	Infant Respiratory Distress Syndrome
laryngotracheo-oesophageal cleft **not** laryngo-tracheo-oesophageal cleft	
LV$dP/dt$	rate of change of left ventricle pressure
nasopharyngeal	
$P_{E}CO_2$	**not** $PECO_2$
PEEP	positive end-expired pressure
RA, RV	right atrium, right ventricle
RFA	radiofrequency ablation
TCAD	tricyclic antidepressant drugs
TOF	train of four

No need to define

ASA	American Society of Anesthesiologists
ASA PS	ASA physical status
AV	atrioventricular
CVP	central venous pressure
EMLA cream	$P_{E}CO_2$
LMA	laryngeal mask airway
MAC	minimum alveolar concentration
NIBP	non-invasive blood pressure
PO	per oral

No need to provide manufacturer for LMA or Tuohy needle

HAEMATOLOGY

Common terms

APTT activated partial thromboplastin time
AT antithrombin
BUN blood urea nitrogen
CRP C-reactive protein
CVP central venous pressure
DDAVP 1-8-deamino-d-arginine vasopressin (also known as desmopressin)
DIC disseminated intravascular coagulation
DVT deep vein thrombosis
factor (F)V Leiden
FVII factor VII
GPI glycophosphatidylinositol
haemophilia A, haemophilia B
INR international normalized ratio
LMWH low molecular weight heparin
MCV mean corpuscular volume
PCF platelet contractile force
PCV packed cell volume
PE pulmonary embolism
PT prothrombin time
PTT partial thromboplastin time
Rco Ristocetin co-factor (**not** RcoF)
rFVIIa recombinant factor VIIa
TED thromboembolic disease
TGT thrombin generation time
TIA transient ischaemic attack
TM thrombomodulin
von Willebrand disease, **not** von Willebrand's disease (type 1, 2A, 2B, 3); VWD, **not** vWD.
von Willebrand factor, **not** von Willebrand's factor; VWF, **not** vWF.
VPC ventricular premature contractions
VTE venous thromboembolism

Drug names
Note use of capitals and trademarks (superscript).

beneFix®	Haemate-P	Kogenate®	Octanol™
FEIBA™	Havrix®	NovoSeven®	

OBSTETRICS AND GYNAECOLOGY

Common abbreviations

CIN cervical intraepithelial neoplasia
FIGO International Federation of Gynecologic Oncology (no need to give in full)
HPV human papillomavirus
LOH loss of heterozygosity
LVSI lymphvascular space invasion (**not** lymphovascular)
SCC squamous cell carcinoma
VAIN vaginal intraepithelial neoplasia
VIN vulvar intraepithelial neoplasia

Common terms

birthweight (**not** birth weight)
bottle-feed
breastfeed
breastmilk
gynaecology (UK spelling)
gynecology (US spelling)
Kaplin-Meier
Pap test
paraprofessional

IMMUNOLOGY

Anti-

antibody	anti-goat
antimicrobial	anti-human
antiserum	anti-mouse
antitetanus	anti-rabbit

Immunoglobulin heavy chains

IgA	α	IgG	γ
IgD	δ	IgM	μ
IgE	ε		

Common terms

ADCC	antibody-dependent cell-mediated cellular cytotoxicity
αIL-4	anti-interleukin-4
Antigens:	*Der p* III, *Der f* III
APC	antigen-presenting cell
autoantigen, autoimmune	
C3	the third component of complement
CALL	common acute lymphocytic leukaemia
$CD45RO^+$	
$CD8^+$ $CD4^+$ (thin space between parts)	
CDR	complementarity determining region
cIgM	cytoplasmic immunoglobulin G
CMC	cell-mediated cytotoxicity
CTL	cytotoxic T lymphocyte
CTLA	cytotoxic T-lymphocyte antigen
DLN	draining lymph nodes
EIA	enzyme immunoassay
$F(ab')_2$	
Fab´	(no brackets if not a dimer)
FLI	Fos-like immunoreactivity
GM-CSF	granulocyte–macrophage colony-stimulating factor
gp60	glycoprotein 60
GVH	graft-versus-host
H-2	mouse version of MHC
HDL	high-density lipoprotein
HLA	human leucocyte antigen
$[^3H]$TdR	$[^3H]$thymidine
$I\text{-}A^b$	(**not** I-Ab)
ICAM-1	intercellular adhesion molecule type 1
LCL	lymphoblastoid cell line
mAb	monoclonal antibody
MACS	magnetic antibody cell sorting
MHC	major histocompatibility complex
MIP	macrophage inflammatory protein or medial intraparietal (area)
MOI	multiplicity of infection
NK	natural killer
PMN	polymorphonuclear cells/leucocytes
TCGF	T-cell growth factor (= IL-2)
TCR	T-cell receptor (**not** TcR)
TDL	thoracic duct lymphocytes
TGF	transforming growth factor
Th	T helper (Th1 never Th-1 or Th 1)
TNF-α	tumour necrosis factor-α
TRF	T-cell replacing factor

PHARMACOLOGY

Devices, products and drugs

At **first mention** of a device, product or drug, give its **generic name** (in lower case; e.g. amoxycillin) followed (in parentheses) by its **brand name** (with initial capitals; e.g. Amoxil) and the **manufacturer's name, city** and **state** (include Inc., Corp., Ltd and Co.). **Trademark** (™) symbols are not used unless referring to a registered trademark (®), and then only at first mention.

- A siliastic catheter (Catheter X, Manufacturer, City, State) was used.
- Patients were given furosemide (Lasix, Hoechst-Roussel Pharmaceuticals, Inc., Somerville, NJ).

In **all subsequent references**, only the **generic name** of the device, product or drug should be used, unless a clear distinction is being made between two or more such products with different brand names.

Dosage/dose

- A **dosage** is a regimen, usually expressed as a quantity per unit of time. Always **abbreviate** b.i.d., t.i.d., q.i.d. (two, three and four times daily, respectively) and h.s. (*hora somni*, at bedtime).
- A **dose** is a quantity to be administered.

Abbreviations

- In **drug administration**, always abbreviate i.d. (intradermal), i.m. (intramuscular), i.p. (intraperitoneal), i.v. (intravenous), p.o. (per os, oral), p.r. (*per rectum*, rectal), s.c. (subcutaneous) and s.l. (sublingual).
- Abbreviations for **drugs and other humoral mediators** use a roman or Greek character with an additional alphanumeric or numeric designator (usually subscript) [e.g. α_{1A}, α_{1B} (alpha-adrenoceptors); D_1, D_2 (dopamine receptors)].

Common terms

AUC_{0-24}	area under the concentration–time curve measured from $t = 0$ to $t = 24$ h (mg h/L)
α	absorption-rate coefficient
β	elimination-rate coefficient
beta-blocker	
β-adrenoceptor	
C_{max}	maximum concentration (of a drug)
Cl	clearance (L/h)
D	dose (mg)
ED_{50}	median effective dose (mg)
LD_{50}	median lethal dose (mg)
NSAIDs	non-steroidal anti-inflammatory drugs
pKa	dissociation coefficient
Q	blood flow (L/h)
$t_{1/2}$	half-life
$t_{1/2\alpha}$	absorption half-life
$t_{1/2\beta}$	elimination half-life
$V_{d(area)}$	volume of distribution (L)
$V_{d(ss)}$	volume of distribution at steady state (L)

3.9 Nursing, Health and Dentistry

NURSING, MIDWIFERY AND ALLIED HEALTH

Common terms

audiotape/videotape (n.), audio-/video-tape (v.), audio-/video-taped (adj.)
birthweight (**not** birth weight)
bottle-feed
breastfeed/breastmilk
caregiver, caregiving
case finder, finding, manage, manager, management, study **but** caseload, caseworker
day care
endpoint
firstborn
full-term/preterm
health care
healthcare (adj)
in utero (roman)
inpatient/outpatient
life span
life-event
Likert scale (5-point Likert scale)
low-birthweight/very low-birthweight
meta-analysis
NHS Modernisation Agency
NHS trust (generic), NHS Trust (specific)
Pap test
Pearson product–moment correlation coefficient (with en rule, not hyphen)
pretest
primigravadas (pl.)
Registered Nurse (RN)
tape-record (v.), tape recorder, tape recording (n.), tape-recorded (adj.)
well-being
wet nurse
World Health Organization (WHO) or Organisation mondiale de la Santé (French) or Organización Mundial de la Salud (Spanish)

Common abbreviations

ANA	American Nurses Association
APTs	Acute Pain Teams
CINAHL	Cumulative Index to Nursing and Allied Health Literature
DoH	Department of Health (UK)
ICN	International Council of Nurses
ICNP®	International Classification for Nursing Practice
NHS	National Health Service (UK)
NIH	National Institutes of Health (US)
PAHO	Pan American Health Organization

DENTISTRY

Common terms

ABL	alveolar bone loss
AgNOR	argyrophilic nucleolar organizer region
BMD	bone mineral density
CK	cytokeratin
DMFT	decayed, missing or filled permanent teeth
dmft	decayed, missing or filled primary teeth
GCF	gingival crevice fluid
GSTM	glutathione S-transferase μ1
HGF	hepatocyte growth factor
IGF-1	insulin-like growth factor-1
MMP	matrix metalloproteinase
OHIP	oral health impact profile
OLP	oral lichen planus
OSCC	oral squamous cell carcinoma
PBL	problem-based learning
PDGF	platelet-derived growth factor
PGE2	prostaglandin E_2
Sjögren's syndrome	
TGFß1	transforming growth factor ß1
TIMP	tissue inhibitor of matrix metalloproteinase
TMD	temporomandibular disorder
TMJ	temporomandibular joint
TNF	tumour necrosis factor
VEGF	vascular endothelial growth factor

RECOMMENDED TEXTS

Blackwell's Dictionary of Nursing (1994). Blackwell Science, Oxford.
Zwemer T.J. (1998) *Mosby's Dental Dictionary*. Mosby, London.

3.10 Social and Behavioural Sciences

GEOGRAPHY

See the section '**Places**' in Part 1 of this guide.

Common terms

destination choice
distance-related
economies-of-scale
export-demand
export-sector
graph-theoretic
gross and net migration
in- and out-migration
interregional
intraregional
nonsurvey
per capita
policymaker
shortest-path
shortest-route/path
street-front
subarea
subnational
town-wide
tract-level geography
trade-area survey
worldwide

SOCIOLOGY

Please refer to the 'Politically sensitive terms' section of 'English Usage and Grammar' in Part 1 of the guide. In particular, you should **avoid** gender bias and ethnic stereotyping.

DO use	DO NOT use
person, people and humankind	man, men and mankind
'he or she', 'her or him', 'his or hers' (varying the order occasionally) **or** change to plural 'they'	'he/she', 'him/her' and 'his/hers'

PSYCHOLOGY

Please refer to the 'Politically sensitive terms' section of 'English Usage and Grammar' in Part 1 of the guide.

Common terms

Asian American (n. and adj.)
Black
bipolar
bivariant
broad-based
covariance
Cronbach's alpha
cross-cultural
cross section (n.); cross-sectional (adj.)
Likert
midlife (n.)
multiscale
neo-Freudian
sociocultural
well-being
White

Common abbreviations

ANOVA	analysis of variance	CES-D	Center for Epidemiology Depression Scale
BPI	Basic Personality Inventory	DIF	differential item functioning
CECS	Courtauld Emotional Control Scale	WAI	Weiberger Adjustment Inventory

RECOMMENDED TEXTS

APA (2001) *Publication Manual* (5th edn). American Psychological Association, Washington, DC (available from http://www.apastyle.org/pubmanual.html).

ASA (1996) *American Sociological Association Style Guide* (2nd edn). American Sociological Association, Washington, DC (available from the ASA Executive Office, 1307 New York Avenue NW, Suite 700, Washington, DC 20036, USA).

3.11 Resources for Journal Abbreviations

- **Index Medicus**
  ftp://nlmpubs.nlm.nih.gov/online/journals/ljiweb.pdf
- **PubList** (You need to register before using this one, but it's free to do so.)
  http://www.publist.com/
- **ISI Journal Abbreviations Index**
  http://library.caltech.edu/reference/abbreviations/
- **Guide to Journal Abbreviations**
  http://www.library.uiuc.edu/vex/vetdocs/jnabbrev.htm

3.12 Recommended Reference Books

STYLE MANUALS

***The Chicago Manual of Style: The Essential Guide for Writers, Editors, and Publishers,* 15th edn (2003)**
by The University of Chicago Press, Chicago, IL.

- The 'essential reference for authors, editors, proofreaders, indexers, copywriters, designers, and publishers' in all subject areas.

***Copy-editing: The Cambridge Handbook for Editors, Authors and Publishers*, 3rd edn (1992)**
by J. Butcher. Cambridge University Press, Cambridge.

- Covers all aspects of the editorial process.

***MLA Style Manual and Guide to Scholarly Publishing*, 2nd edn (1998)**
by J. Gibaldi. The Modern Language Association of America, New York, NY.

- Guide for graduate students, teachers, and scholars in the humanities and for professional writers in many fields.

***The Oxford Guide to Style* (2002)**
by R. Ritter. Oxford University Press, Oxford.

- A completely rewritten and expanded modern edition of *Hart's Rules for Compositors and Readers.*
- The 'ultimate guide for all printers, publishers, and editors'.

***Publication Manual of the American Psychological Association*, 5th edn (2001)**
by the American Psychological Association, Washington, DC.
- Style manual for behavioural and social sciences.

***Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers*, 6th edn (1995)**
by E. J. Huth. Cambridge University Press, Cambridge.
- Covers all sciences, not just biology and the medical sciences.
- Both US and UK preferences are recognised.

DICTIONARIES AND REFERENCE WORKS

***Concise Oxford Dictionary*, 10th edn**
For standard UK spelling.

***Macquarie Dictionary*, 3rd edn**
For standard Australian spelling.

***Merriam-Webster's Collegiate Dictionary,* 11th edn**
For standard US spelling.

***American Psychological Association Publication Manual*, 5th edn (2001)**
American Psychological Association, Washington, DC (available from http://www.apastyle.org/pubmanual.html).

***American Sociological Association Style Guide*, 2nd edn (1996)**
American Sociological Association, Washington, DC (available from the ASA Executive Office, 1307 New York Avenue NW, Suite 700, Washington, DC 20036, USA).

***Blackwell's Dictionary of Nursing* (1994)**
Blackwell Science, Oxford.

***Butterworths Medical Dictionary*, 2nd edn (1978)**
edited by M. Critchley. Butterworth, London.

***Dictionary of Medical Acronyms and Abbreviations*, 4th edn (2001)**
by S. Jablonski. Hanley & Belfus, Philadelphia, PA.

***A Guide to IUPAC Nomenclature of Organic Compounds: Recommendations* (1993)**
by J.-C. Richer, R. Panico and W. H. Powell. Blackwell Scientific Publications, Oxford.
See also http://www.iupac.org/dhtml_home.html

***List of Journals Indexed in Index Medicus* (published annually)**
US Department of Health and Human Sciences, National Library of Medicine, Bethesda, MD.
See also http://www.nlm.nih.gov/tsd/serials/lji.html

***Mosby's Dental Dictionary* (1998)**
edited by T. J. Zwemer. Mosby, London.

***Mathematics into Type* (1999)**
by E. Swanson. American Mathematical Society, Providence, RI.

***Medical Directory* (2003)**
See http://www.informalaw.com/LPP863/?source=healthcare

***Units, Symbols and Abbreviations: A Guide for Medical and Scientific Authors*, 5th edn (1994)**
edited by D. N. Baron. The Royal Society of Medicine Press, London.

***Stedman's Medical Dictionary*, 27th edn (2000)**
Lippincott Williams & Wilkins, Hagerstown, MD.

Who's Who
See http://www.marquiswhoswho.com/

USAGE GUIDES

***The New Fowler's Modern English Usage*, 3rd edn (1998)**
revised by R. W. Burchfield. Oxford University Press, Oxford.
***The Elements of Style*, 4th edn (2000)**
by W. Strunk Jr and E. B. White. Allyn & Bacon, Needham Heights, MA.
***Modern Australian Usage*, 2nd edn (1997)**
by N. Hudson. Oxford University Press, Melbourne.
***Longman Guide to English Usage* (1996)**
by S. Greenbaum and J. Whitcut. Penguin, London.

GENERAL BOOKS

***How to Copyedit Scientific Books and Journals* (1986)**
by M. O'Connor. ISI Press, Philadelphia, PA.
***Woe is I: The Grammarphobe's Guide to Better English in Plain English* (1996)**
by P. T. O'Conner. Riverhead Books, New York, NY.
***The New Print Production Handbook* (1997)**
by D. Bann. Little & Brown, London.
***The Australian Editing Handbook* (2001)**
by E. Flann and B. Hill. Common Ground Publishing, Australia.
***On Writing, Editing and Publishing*, 2nd edn (1986)**
by J. Barzun. University of Chicago Press, Chicago, IL.

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