

Updated Style Guide

Magnetic Resonance in Medicine

The purpose of this Style Guide is to direct authors in the preparation of their manuscripts. It supplements and complements the Author Guidelines printed in each issue of the journal. The aim of this guide is to improve consistency in the presentation of the articles and to minimize changes during the copyediting process. Adherence to these standardized guidelines will speed up the publication process.

Article Organization and Presentation

Title Page

The title page should include the title of the work and a list of contributing authors. Article titles are set in sentence case, but abbreviations and proper nouns should be capitalized. The use of abbreviations in the title should be avoided, unless they are considered a common abbreviation (see list), include the name of a group that is best known by its acronym (e.g., CONSORT statement), or provide essential information (e.g., the point of the paper is to introduce a new method that will typically be abbreviated). Capitalize the first word after a colon or em dash, unless it is a lowercase abbreviation or follows any other specified usage. Spell out numerals if they appear in the beginning of a title. The title page should also identify the corresponding author and their complete contact information.

It should also include the word count of the body of the text (i.e., not including the title page, abstract, figure captions, tables, table captions, or references), institution information, and key words. Please see the Author Guidelines for more detailed instructions.

Only one author may be listed as the corresponding author. The corresponding author need not be the first author.

Magn Reson Med prefers authors to be listed without details of relative status, but allows specifications of the contributions made by the co-authors in the Acknowledgments section of the manuscript. If the authors consider it essential and justified to indicate more prominently that two authors are equal in status, they may be identified by an asterisk (*) with the caption 'Author X and Author Y contributed equally to this work' in the author's footnote on the title page. If more than two co-authors are of equal status, however, this can only be indicated in the Acknowledgments section of the manuscript.

Abstract

The abstract of the paper should be written in the passive voice. Authors should avoid the use of the first person, and the length of the abstract should not exceed 250 words. The abstract of a Technical Note, Rapid Communication, or Research Article should be written in a structured format, which comprises the following headings:

Purpose:

Methods:

Results:

Conclusion:

If a paper contains a Theory section (which is optional), the following alternative structured abstract format is also acceptable:

Purpose:

Theory and Methods:

Results:

Conclusion:

Abstracts for Reviews, Guidelines, Mini Reviews, and Review-Symposiums are also a maximum of 250 words, but do not use a structured format.

At the end of the abstract, the authors should include a list of three to six keywords. Because the abstract will also be used by abstracting services, it must be self-contained, having no references to formulas, equations, or bibliographic citations that appear in the body of the manuscript. The use of citations in the abstract should be limited to when absolutely necessary. If necessary, please follow the formatting guidelines presented in the References section of the Information for Authors.

Manuscript Body

Manuscripts should normally be divided into four sections with the headings “Introduction,” “Methods,” “Results,” and “Discussion.” A “Theory” section may be included after the Introduction, if a need exists. In the Theory section, detailed mathematical derivations can be accommodated. Alternatively, such derivations may be included in an Appendix. In general, the use of appendices is discouraged, but exceptions will be made if, for example, the work’s essence can be understood by readers without the need to grasp the details of the mathematical treatment. When present, appendices are included in the word count.

In the Introduction section, the purpose of the study should be described, along with some background. “Bulk” citations should be avoided. Instead, authors are encouraged to weave explanatory text around the citations so that the reader can better appreciate their connection to the current paper. If the work is hypothesis-driven, authors are encouraged to include the hypothesis in this section.

The next section should start with the heading “Methods” (*not* “Materials and Methods”). It should succinctly describe the techniques and instrumentation used, define the patient population, etc.

In the “Results” section, significant findings and observations should be described. The section should not be a repetition of the figure captions. In a separate section entitled “Discussion,” the results should be critically evaluated and interpreted and placed in the context of existing literature. Further, authors should highlight whether the data are in agreement or at variance with prior published findings. If a new method has been presented, its performance should be critically assessed and compared with alternative methods. Speculation and extrapolation should be minimized or avoided altogether, and, if presented, must be clearly identified as such and confined to the Discussion section.

In the last section, “Conclusions” (which may be merged with “Discussion” into “Discussion and Conclusions” provided no speculation or extrapolation is presented) authors should state what can be concluded from the data presented. Please avoid making excessive claims.

Subheadings

Subheadings are allowed, and their use is left to the discretion of authors. Authors are encouraged to use subheadings in long papers, particularly in the “Results” and “Discussion” sections.

Tables

Authors should provide a title for each table. Tables are numbered consecutively with Arabic numerals in the order of their appearance in the text. Error limits for all experimental data should be given, and the number of significant figures in the data should be consistent with the error estimates. Table footnotes, lettered a, b, c, etc., should appear directly below the table. Tables should be listed at the end of the manuscript text or uploaded as individual .doc (or .docx) files. Tables should *not* be uploaded as .tiff or .eps files.

Institutional Review Board (IRB)/Ethics Board Consent

Articles involving human subjects require a statement that the studies were conducted with the approval of an Institutional Review Board (IRB) or analogous Ethics Board. Similarly, articles involving animal experiments require a statement that the studies were conducted with the approval of an Institutional Animal Care and Use Committee (IACUC) or analogous Board.

Statistical Significance

The Editorial Board recommends that for papers in which statistical methods are needed to reach conclusions (e.g., work relating to measurements in biological samples, animals or humans), an estimate of the minimum sample size be performed to obtain significant results and the statistical assumptions used in the analysis be explained. A sample size of at least the minimum number should be used unless there are compelling reasons not to do so.

Acknowledgments

An Acknowledgments section is optional and is placed between Conclusions and References. It is appropriate to acknowledge sources of funding and also to thank colleagues or coworkers for assistance in conducting the research or help with the writing of the manuscript. However, the practice of acknowledging typists and illustrators should be avoided, as should the use of flowery or effusive statements. Because journal space is very limited, the acknowledgment of anonymous referees is also discouraged. Though Magn Reson Med prefers authors to be listed without details of relative status, the journal does allow specifications of their contributions in the Acknowledgments. When more than two co-authors are of equal status, it should be noted only in this section.

Footnotes

The use of footnotes is discouraged. Use them only when absolutely necessary, in which case the footnotes should appear consecutively, double-spaced, on a separate page in the order of their appearance in the text and identified by Arabic numerals 1, 2, etc. In the text, refer to the footnotes by superscript Arabic numerals.

Word Count and Figure Limits

Manuscript Type	Max Manuscript Words ^a	Max Total Figures plus Tables
Research Article	5000	10
Rapid Communications	3500	7
Technical Notes	2800	5
Letter to the Editor and Reply	750	1
Review, Guidelines ^b	7500	15
Mini-Review ^b	1200	2
Review Symposium	2500	1

^aIn the body of the text, i.e., not including the title page, abstract, figure captions, tables, table captions, references, or revision markings.

^bReviews, Mini-Review, and Guidelines articles are submitted based on editorial invitation. Submitted reviews are also allowed, but please contact the editor with your proposal prior to preparing your article. All review articles are peer reviewed.

In exceptional cases, these limits may be relaxed for any individual manuscript at the discretion of the Editor-in-Chief. Authors should keep in mind that exceeding any of these limits on a manuscript may increase its chance for rejection.

Magn Reson Med no longer imposes fixed limits on the maximum number of citations in manuscripts. Please provide the appropriate number of citations to best help the reader understand your work and its context in the literature.

Style and Nomenclature

Magn Reson Med follows Scientific Style and Format, as described in the AMA Manual of Style: A Guide for Authors, tenth edition (New York: American Medical Association in cooperation with Oxford University Press, 2007). When copyediting and typesetting your paper, the publisher consults the Wiley Journal Style Manual about topics not specifically covered in the Magn Reson Med Style Guide. The journal uses American spelling conventions, e.g., center, color, organize, pediatric, etc., rather than centre, colour, organise, paediatric.

Numbers

Use numerals to express:

- numbers 10 and above (e.g., 12-cm wide)
- numbers that immediately precede a unit of measurement (e.g., a 5-mg dose)
- numbers that represent statistical or mathematical functions (e.g., multiplied by 5)
- numbers that represent time, dates, ages, scores and points on a scale, exact
- sums of money, and numerals as numerals (e.g., 1 h 34 min)
- numbers that denote a specific place in a numbered series (e.g., row 5)

Use words to express:

- numbers zero to nine
- any number that begins a sentence, title, or text heading
- common fractions (e.g., one fifth of the class)
- universally accepted usage (e.g., the Twelve Apostles)

Use a combination of numerals and words to express back-to-back modifiers:

- 2 two-way interactions
- ten 7-point scale

Ordinal Numbers

- Second-order factor
- The fourth graders
- The first item of the 75th trial
- The first and third groups
- Spell out ordinal that appears before a numeral

Comma in Numbers

Use a comma as a separator in numbers of ≥ 5 decimal places.

Journal Abbreviations

For references, the primary source for journal name abbreviations is the List of Journals Indexed for MEDLINE, which has a link available at <http://www.ncbi.nlm.nih.gov/books/NBK7253/>; BIOSIS and Index Medicus are the secondary sources.

Nomenclature

Chemical names and enzymes: Magn Reson Med uses the *Merck Index* and the *IUPAC-IUB Commission on Biochemical Nomenclature-Chemical Abstracts* as the primary references for the proper spelling and style of chemical names. *Enzyme Nomenclature* is the Magn Reson Med source for the style and spelling of enzyme names.

Mathematics

Composing mathematical symbols is slower for the publisher than text. Good judgment in the selection of notation, results in more rapid publication as well as improved clarity. Authors are urged to consult books on publishing mathematics, such as *A Manual for Authors of Mathematical Papers*, published by the American Mathematical Society. The use of a good mathematics editing program during manuscript preparation is also very beneficial. The defaults in the program should be set to the conventions outlined below.

Equations and Formulas

Simple and unimportant equations may be placed in the text whenever it is possible to do so without sacrificing clarity and without increasing the space between lines – see below. Major equations should normally be placed on a new line and numbered consecutively using Arabic numerals, with the numbers placed in square brackets against the right margin. If an equation stands alone, no end punctuation is needed. If an equation ends a sentence, use a period (.) after the equation. When referring to an equation or equations in the text, use the abbreviation Eq. or Eqs., respectively. When confronted with a large equation that requires more than one line, place the breaks in logical and meaningful places. When appropriate, plus signs (+) may appear at both the end of the upper line and the beginning of the lower line, if it improves clarity.

Sign Convention

Note that it has been the convention in the magnetic resonance community for a number of years that precession and notation be considered right-handed unless there are cogent reasons otherwise. Thus, equations should be written to follow that convention, e.g. $\omega_0 = +\gamma B_0$.

Symbols

Mathematical symbols should conform to common usage in the magnetic resonance discipline. For example, *B* should be used for magnetic field rather than *H*, unless there is a need to differentiate between these two.

The symbol *k* is italicized when used as a variable, but not when used in the term “k-space”. When capitalizing, such as to start a sentence, use “k-Space.”

For statistical significance, please use lower-case italicized “*p*” (i.e., $p = 0.05$)

Please select properly between ‘oh’, ‘zero’; ‘ell’, ‘one’; ‘kappa’, ‘kay’; upper and lower case ‘kappa’; ‘ex’, ‘chi’; etc. The Greek letters capital sigma (Σ) and capital pi (\prod) are typically reserved for summations and products. The following usages are preferred:

\approx for approximately equals, as opposed to modifications of $=$.

∇ for the operators curl, divergence, etc., rather than abbreviations such as rot or div.

\times for cross products, rather than \wedge .

Fonts and Faces

Use standard notation whenever possible, and avoid the use of exotic fonts. In general, simple font such as Arial, Verdana or Times-Roman and Greek are preferred. Avoid the use of italicized Greek. A mathematical font that slightly slants Greek letters is acceptable. All scalar mathematical Latin characters are set in italics, whether they are variables or constants. Symbols representing vectors and matrices are in boldface Roman. The face for any subscript or superscript is determined by the function of that script, e.g. \mathbf{A}_M , \mathbf{A}_x . If a subscript or superscript is word or stands for a word, it is set in Roman, for example V_{out} , T_R , $B^{(o)}$; if it represents a variable, it should be italicized. Abbreviations of functions such as sin (sine), cos (cosine), tan (tangent), log (natural logarithm) and operators such as arg (argument) and tr (trace) should be set in Roman type and are not italicized.

Do not italicize “in vivo” or “in vitro.”

Subscripts and Superscripts

Superscripts are usually aligned directly over subscripts, for example T_n^m , unless a tensor notation is being used where the positions of indices have definite meaning. When a single integral is used, subscripts and superscripts follow the symbol, for example:

$$\int_a^b.$$

However, for multiple integrals, single limits may be placed centrally above and below, e.g., $\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty}$. With unions, summations, limits and products, superscripts and subscripts should be above and below the symbols, for example, $\bigcup_{n=1}^{\infty}$, $\sum_{n=1}^{\infty}$, $\lim_{x \rightarrow \infty}$, $\prod_{n=1}^{\infty}$.

Fractions

Stacked fractions in text (e.g., $\frac{x}{y}$) create an extra space between lines and should be avoided by the use of a solidus or a negative exponent: x / y or xy^{-1} . This also generally applies to fractions in subscripts and superscripts.

Exponentials and Radicals

The form ‘exp’ should be used for in-line expressions. It is also preferable in equations rather than ‘e’ whenever the superscript is cumbersome or long, or contains indices or fractions.

For example, e^{at^2+bt+c} should be written $\exp (at^2+bt+c)$. The use of radicals in-text expressions such as $\sqrt{x-y}$ is permitted.

However, avoid in-line expressions such as $\sqrt{\sum_{n=1}^{\infty} J_n}$ that require spreading of lines.

Matrices

Matrices and determinants are set in rows and columns in a rectangular array in brackets or straight lines, respectively. A central alignment should be employed: for example, a matrix can be written as:

$$\begin{pmatrix} a_1 & a_2 + f & a_3 \\ b_1 + f + g & b_2 & b_3 \\ c_1 & c_2 & c_3 + g \end{pmatrix} \text{ or } \begin{bmatrix} a_1 & a_2 + f & a_3 \\ b_1 + f + g & b_2 & b_3 \\ c_1 & c_2 & c_3 + g \end{bmatrix}$$

$$\text{while a determinant can be written } \begin{vmatrix} a_1 & a_2 + f & a_3 \\ b_1 + f + g & b_2 & b_3 \\ c_1 & c_2 & c_3 + g \end{vmatrix} \text{ or } \det \begin{bmatrix} a_1 & a_2 + f & a_3 \\ b_1 + f + g & b_2 & b_3 \\ c_1 & c_2 & c_3 + g \end{bmatrix}$$

Matrices and determinants should not be placed in text.

Fences

The preferred order for common enclosures is $\{[(...)]\}$. However, this order may be violated if there is a specific meaning attached to a particular fence. For example $[..]$ may indicate a vector or a matrix. It is not uncommon for authors accidentally to omit closing fences, and counting pairs in complex expressions is a good practice.

Embellishments

Embellishment over letters such as x , \hat{B} , u , etc., is allowed, as is the use of primes and other modifiers such as left superscripts. Double embellishments should be avoided if possible since subscripts can often be employed instead. With the exception of bars, do not put embellishments over groups of letters.

Physical Units

The International System of Units (*Système International d'Unités*, SI) should be used, together with its approved abbreviations T, A, nF, mm, etc. Note that in all cases, the full name of the unit is in lower case letters: tesla, ampères, etc., and that the abbreviation is not followed by a period (.). Authors may wish to consult publications on this subject, for example, a recent version of the *Encyclopaedia Britannica* or the sources listed below. While common units such as minute and liter are not strictly part of the international system, it is impractical to abandon them and they are admissible. Note, however, that following United States convention, the abbreviation 'L' for liter is used to avoid confusion between lower case ell and one. Use the absolute temperature scale when appropriate based on context: "The helium bath was at a temperature of 4 K," but "the temperature increase of the wire was 5 °C."

Do not use final periods after abbreviations of units of measure (cm, s, kg, etc.) in text or in tables.

Names and Symbols of SI Base Units

Physical Quantity	Unit of Measure	Symbol for SI Unit
length	meter	m
mass	kilogram	kg
time	second	s ^a
electric current	ampere	A
temperature	Kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

^a "s" should always be used, unless it would cause confusion with a competing symbol, in which case "sec" is acceptable.

SI Prefixes to Denote Multiples and Submultiples

Factor	Prefix	Symbol	Factor	Prefix	Symbol
10 ¹⁵	peta	P	10 ⁻¹	deci	d
10 ¹²	tera	T	10 ⁻²	centi	c
10 ⁹	giga	G	10 ⁻³	milli	m
10 ⁶	mega	M	10 ⁻⁶	micro	μ
10 ³	kilo	k	10 ⁻⁹	nano	n
			10 ⁻¹²	pico	p
			10 ⁻¹⁵	femto	f

When a prefix is combined with a unit symbol, it becomes a new symbol, which can be raised to any power without the use of parentheses, for example, $\mu\text{m}^2 = (\mu\text{m})^2$.

A prefix should not be used alone, and prefixes should not be combined into compound prefixes.

SI Derived Units with Special Names and Symbols

Physical Quantity	Name of SI Unit	Symbol for SI Unit	Expression in Terms of SI Base Units
frequency	hertz	Hz	s^{-1}
angular frequency	radians per second	rad s^{-1}	rad s^{-1}
force	newton	N	$kg\ m\ s^{-2}$
pressure, stress	pascal	Pa	$N\ m^{-2} = kg\ m^{-1}\ s^{-2}$
energy, work, heat	joule	J	$N\ m = kg\ m^2\ s^{-2}$
power, radiant flux	watt	W	$J\ s^{-1} = kg\ m^2\ s^{-3}$
electric charge	coulomb	C	A s
electric potential, electromotive force	volt	V	$J\ C^{-1} = kg\ m^2\ s^{-3}\ A^{-1}$
electric resistance	ohm	Ω	$V\ A^{-1} = kg\ m^2\ s^{-2}\ s^4\ A^{-2}$
electric capacitance	farad	F	$C\ V^{-1} = kg^{-1}\ m^{-2}\ s^4\ A^2$
magnetic flux density	tesla	T	$V\ s\ m^{-2} = kg\ s^{-2}\ A^{-1}$
magnetic flux	weber	Wb	$V\ s = kg\ m^2\ s^{-2}\ A^{-1}$
inductance	henry	H	$V\ s\ A^{-1} = kg\ m^2\ s^{-2}\ A^{-2}$
Celsius temperature ^a	degree Celsius	$^{\circ}C$	K
luminous flux	lumen	lm	cd sr
illuminance	lux	lx	cd sr m^{-2}
radioactivity ^b	becquerel	Bq	s^{-1}
absorbed radiation dose	gray	Gy	$J\ kg^{-1} = m^2\ s^{-2}$
dose equivalent index	sievert	Sv	$J\ kg^{-1} = m^2\ s^{-2}$
plane angle	radian	rad	$1 = m\ m^{-1}$
solid angle	steradian	sr	$1 = m^2\ m^{-2}$
concentration ^{c,d}	molal	<i>m</i>	mol kg^{-1}
magnetic field gradient ^{3c,e}	tesla per meter	T m^{-1}	$V\ s\ m^{-3} = kg\ m^{-1}\ s^{-2}\ A^{-1}$

^aThe symbol $^{\circ}C$ should be treated as a single symbol, with no space between the $^{\circ}$ sign and the letter C.

^bThe historical and still common curie (Ci) = 2.7027027×10^{11} Bq.

^cNot in CRC Handbook of Chemistry and Physics (91st Edition, 2010-2011) units section.

^dUse italics for the symbol for molal (*m*).

^eThe historical unit of gauss per centimeter is not permitted. $1\ G\ cm^{-1} = 10\ mT\ m^{-1}$.

Non-SI Units in Common Usage

Physical Quantity	Name of Unit	Symbol for Unit	Value in SI Units
time	minute	min	60 s
time	hour	h	3600 s
time	day	d	86,400 s
plane angle	degree	$^{\circ}$	$(\pi/180)$ rad
plane angle	minute	$'$	$(\pi/10,800)$ rad
plane angle	second	$''$	$(\pi/648,000)$ rad
length	Ångstrom	Å	10^{-10} m
area	barn	b	10^{-28} m ²
volume	liter (litre)	L	$dm^3 = 10^{-3}$ m ³
pressure	bar	bar	10^5 Pa = 10^5 N m ⁻²
energy	electronvolt	eV ($= e \times V$)	1.60218×10^{-19} J
mass	unified atomic mass unit ^a	u ($= m_a(^{12}C)/12$)	1.66054×10^{-27} kg
concentration ^{2b}	molar	M	mol $L^{-1} = mol\ dm^{-3}$

^aAlso more commonly called the dalton, with the symbol Da.

^bNot in CRC Handbook of Chemistry and Physics (91st Edition, 2010-2011) units section.

Composite Units

A composite unit often used refers to the relaxation rate per unit concentration induced by a relaxation reagent. Relaxivity (symbol $r_{1,2}$) has units of $\text{s}^{-1} \text{M}^{-1} = \text{s}^{-1} \text{mol}^{-1} \text{dm}^3$.

Abbreviation of Units

Abbreviate units when they follow a number; otherwise, spell them out. Use a solidus (/) or negative superscript only with abbreviated units.

Spacing Between Numbers and Units

Use a space between a number and following unit, except when the two are used as an adjectival modifier (e.g., 50-mL flask), when a hyphen should separate them. Use a space between consecutive units, abbreviated units, and unit symbols.

The space may be omitted when the magnetic field strength is used as an adjective, but a hyphen is not used. The following are acceptable: “A 3T magnet,” “A field strength of 3.0 T,” but *not* “A 3-T magnet.”

Chemical Units

For multivalent ions, specify the charge with a superscript containing the magnitude and then the sign of the electrical charge. For example, Hg^{2+} , not Hg^{+2} or Hg^{++} .

Sources: CRC Handbook of Chemistry and Physics (91st Edition, 2010-2011; especially sections on International System of Units and Conversion Factors), CRC Handbook of Chemistry and Physics (51st edition, 1970–1971; especially sections on Definitions and Formulas, Abbreviations and Symbols, and Spelling and Symbols for Units), ACS Style Guide, Style Manual of the American Institute of Physics, CSE Style Manual, Units of Weight and Measures (L.B. Chisholm, National Bureau of Standards, Misc. Pub. 286, May, 1967), IUPAC.

Abbreviations of Terms and Acronyms

Abbreviations have to occur at least three times in the paper to justify their use. Introduction of new acronyms for pulse sequences, analysis and processing methods is allowed, but discouraged.

The following abbreviations and acronyms are common in the MR community and do not need to be defined prior to their first use:

ADC	apparent diffusion coefficient
BOLD	blood oxygen level dependent
B_0	amplitude of static (polarizing) field
B_1	amplitude of (excitation) radiofrequency field
χ	magnetic susceptibility
^{13}C MR carbon-13	magnetic resonance (not “CMR”)
CEST	chemical exchange saturation transfer
Cho	choline
Cr	creatine
CSF	cerebrospinal fluid
CSI	chemical shift imaging
CT	computed tomography
dB	decibel
DCE	dynamic contrast-enhanced
DTI	diffusion tensor imaging
DWI	diffusion-weighted imaging

EPI	echo-planar imaging
EPR	electron paramagnetic resonance
ESR	electron spin resonance
FID	free induction decay
FLASH	fast low angle shot
FMRI	functional magnetic resonance imaging
FOV	field of view
FWHM	full width at half maximum
GRAPPA	generalized auto-calibrating partially parallel acquisition
γ	gyromagnetic ratio ^a
H ₂ O	water
¹ H MR	proton magnetic resonance (not “PMR”)
J-coupling	scalar coupling
MOLLI	modified Look-Locker inversion-recovery
MPRAGE	magnetization prepared rapid gradient echo
MR	magnetic resonance
MRA	magnetic resonance angiography
MRI	magnetic resonance imaging
MRS	magnetic resonance spectroscopy
MRSI	magnetic resonance spectroscopic imaging
NAA	N-acetyl aspartate
NMR	nuclear magnetic resonance
PCr	phosphocreatine
PCO ₂	carbon dioxide partial pressure
PET	positron emission tomography
pH	negative logarithm of hydrogen ion concentration
P _i	inorganic phosphate
PO ₂	oxygen partial pressure
ppm	parts per million
PRESS	point resolved spectroscopy
<i>p</i> -value	probability value
QSM	quantitative susceptibility mapping
RF	radiofrequency
R ₁	longitudinal relaxation rate
R ₂	transverse relaxation rate
R ₂ [*]	effective transverse relaxation rate

R'_2	rate of RF-reversible dephasing
RMS	root mean square
SD	standard deviation
SENSE	sensitivity encoding technique
SNR	signal-to-noise ratio
SSFP	steady state free precession
STEAM	stimulated echo acquisition mode
SWI	susceptibility weighted imaging
TE	echo time
TI	inversion time
TR	pulse repetition time
T_1	longitudinal relaxation time
T_2	transverse relaxation time
T_2^*	effective transverse relaxation time
T'_2	time constant for RF-reversible dephasing
t-test, t test	Student's t-test
UTE	ultrashort echo time
2D, 3D, 4D, 5D	two-dimensional, three-dimensional, four-dimensional, five-dimensional

^a γ by default is measured in rad/s/T, i.e., for protons, $\gamma = 2\pi \times 42.57$ MHz/T. If you omit the factor of 2π and measure γ in MHz/T, clearly state so upon the first usage. Do not use gamma bar.

Note that these abbreviations are not italicized. When spelling out the words that make up an abbreviation or acronym, generally use lowercase letters, although capitalization is acceptable when its use is necessary to identify specific constituent letters.

Illustrations

General

Illustrations should be as close as possible to the size desired when in print and saved in .tiff or .eps formats. They should not exceed the desired size by more than twofold. In this manner, reduction of annotations beyond legibility can be avoided. The sizing should be chosen so as to maintain constant information density.

Figures will be sized by column width when published to be a single column, 1.5 columns, or double columns. The corresponding width measurements are:

Single column width: 20.5 picas; 3.42 in; 8.67 cm

1.5 columns width: 30.75 picas; 5.12 in; 13.02 cm

Double column width: 41.5 picas; 6.9 in; 17.56 cm

Page depth: 57 picas; 9.5 in; 24.13 cm

Line Graphs

Line graphs should have axis annotations with units given in square brackets or parentheses, e.g., $R_2[s^{-1}]$ or $R_2(s^{-1})$. There should be no titles in the graph, but rather, a title should be given in the figure legend, e.g., “Effective transverse relaxation rate as a function of bone volume fraction in specimens of the human wrist”. Do not shade the graph's background area.

Illustrations

All grayscale or color images should be provided in **.tiff** or **.eps** digital format. PDF images are permitted only for LaTeX submissions. Manufacturers' annotations and patient names must be removed and the images cropped to minimize areas devoid of information. Either the RGB or CMYK color model is acceptable. The latter is optimized for use in paper print, while the former may be preferred for on-screen viewing.

Spectra

^1H and ^{13}C proton spectra should be plotted with their chemical shift scales referred to the shift of tetramethylsilane (TMS = 0). Increasing chemical shift values should indicate *decreasing* shielding. Spectra for other nuclei should be referenced as recommended in *NMR and the Periodic Table* (eds: R.K. Harris and B.E. Mann) and/or other suitable literature. Unless there is a compelling reason for them to be plotted otherwise, spectra should be black on a white background with lines sufficiently thick to be clearly visible after reduction to journal size. Relevant signals should be annotated and the pertinent acquisition and processing parameters provided in the legend.

References

References should conform to the models for journal articles, abstracts, and books or book chapters published in the Information for Authors.

References should be prepared according to AMA Manual of Style: A Guide for Authors, 10th edition (New York: American Medical Association in cooperation with Oxford University Press, 2007). References should use the Citation-Sequence format from the style manual, citing references in the text by a number in parentheses and listed at the end of the paper in numerical order. Reference samples are provided in the Authors Guidelines. Private communication and unpublished material should be cited in the text and not be treated as a reference. References to abstracts are acceptable; however, the published version of the work supersedes the abstract, except in cases where the original abstract contains unique information. Authors should avoid citing both the abstract and the published paper for the same work, unless necessary. Websites are acceptable as references, but only when another publication is not available, and should follow the accepted format in the example below. If there is an author of the website, the author should be included before the title.

“Submitted” or “in preparation” are not acceptable in the reference list. Journal citations require the full title of the article and include first and last page. All authors should be listed rather than using et al., unless the citation exceeds 6 authors. In that case, please list only the first three authors, followed by et al. When referencing a work by a large group involved in a multicenter study or other named collaboration, it is acceptable to add “for the (full name of the study)” after et al.

Magn Reson Med strongly encourages authors to cite articles that appear online ahead of print, whenever appropriate. The online article often will have “how to cite” instructions associated with it, containing a digital object identifier (DOI) number. Authors should follow the same formatting as print citations and include the DOI and year the article published online. Please follow the journal’s instructions, keeping in mind Magn Reson Med’s use of journal abbreviations may differ.