The word number may be abbreviated No. in the body of tables and line art or in the text when used as a specific designator. Do not use the number sign (#) in place of the abbreviation. The word number should always be spelled out when it is used as a proper noun (eg, “Social Security number”). When referring to numbers of individuals in a study in tables, figures, and within parentheses the abbreviation N is used when referring to the entire sample; n refers to a subsample. (See also, Study Design and Statistics, Glossary of Statistical Terms.) Patients were

The following are some common abbreviations from pulmonary function testing; they should always be expanded at first mention:

Most units of measure are abbreviated when used with numerals or in a virgule construction. Certain units of measure should be spelled out at first mention, with the abbreviated form in parentheses. Thereafter, the abbreviated form should be used in text. (See, Abbreviations, Units of Measure.)
Within the body of the table and in column headings, units of measure and numbers normally spelled out may be abbreviated for space considerations (see Abbreviations, Units of Measure; Units of Measure; and Numbers and Percentages). However, spelled-out words should not be combined with abbreviations for units of measure. For example, “First Week” or “1st wk” or “Week 1” may be used as a column heading, but not “First wk.” Abbreviations or acronyms should be explained in a footnote (see Table Components, Footnotes).

Merriam-Webster’s Collegiate Dictionary defines an abbreviation as “a shortened form of a written word or phrase used in place of the whole” (eg, Dr for doctor, US for United States, dB for decibel). An acronym is “formed from the initial letter or letters of each of the successive parts or major parts of a compound term” (eg, ANCOVA for analysis of covariance). Acronyms are pronounced as words.

For most all-capital abbreviations, the plural is formed by adding s. Do not use an apostrophe before the s. (See also Punctuation, Apostrophe, Using Apostrophes to Form Plurals.) Note: When plural all-capital-letter abbreviations are found in an all-capital setting, such as a first-level heading, the plural s is still lowercase.

REFERRAL PATTERNS IN MIDWESTERN HMOs
Include only abbreviations used in the text being indexed (ie, if a text uses only an expanded form, eg, National Institutes of Health, but never the abbreviation, do not include “NIH” in the index). Abbreviations are listed alphabetically among other entries (examples from Thomas,), catheterization CAT scan. See computed tomography cat-scratch disease CEA (carcinoembryonic antigen) cecum ectopic ACTH syndrome, 106, 107, 109 ectopic kidney, 2226 ectopic pregnancy, 1947, 2055 2056 Identical abbreviations are sorted by case; be consistent throughout the index, eg, HeV, 232 HEV, 330 331 PaO2, 464 PAO2, 251 Use cross-references and expansions with abbreviations, as in these

Abbreviations
Cheryl Iverson

Avoid the use of abbreviations in the title and subtitle, unless space considerations require an exception (see the first example below) or unless the title or subtitle includes the name of a group that is best known by its acronym (see the second example below). In both cases, the abbreviation should be expanded in the abstract and at first appearance in the text. (See also , Capitalization, Acronyms and Initialisms, and , Abbreviations.) Prevalence of HIV-1 in Blood Donations Following Implementation of a Structured Blood Safety Policy in South Africa Reporting of Noninferiority and Equivalence Randomized Trials: An Extension of the

Abstract
Cheryl Iverson

In this age of electronic data dissemination and retrieval, in which abstracts are typically indexed and freely available, a well-written abstract has become increasingly important in directing readers to articles of potential clinical and research interest. The abstract of a research report summarizes the main points of an article: (1) the study objective or background, (2) the study design and methods, (3) primary results, and (4) principal conclusions. For scientific studies and systematic reviews, narrative expressions, such as “X is described,” “Y is discussed,” “Z is also reviewed,” do not add meaning and should be avoided. Results should be presented

Abstract and Introduction
Margaret A. Winker and Stephen J. Lurie

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UPDATE: We will discontinue using quotation marks to identify parts of an article, but retain the capitalization; eg, This is discussed in the Methods section (not the “Methods” section). This change was made February 14, 2013. The structured abstract should enable the reader to assess the study hypothesis and methods quickly and easily. The context for the study question and the hypothesis (objective) should be clearly stated (eg, “To determine whether enalapril reduces left ventricular mass …”), the study design and setting from which the sample was drawn described, and the main outcome measures explained. The results should include

Abstracts and Other Material Taken From Another Source
Cheryl Iverson

Several types of published abstracts may be cited: (1) an abstract of a complete article taken from another publication, as in the Abstracts section of JAMA, (2) a rewritten abstract of a published article with an appended commentary, and (3) an abstract published in the society proceedings of a journal. (For examples of abstracts presented at meetings, published or unpublished, see , Special Print Materials, Serial Publications, and , Special Print Materials, Unpublished Material.) Ideally, reference to any of these types of abstracts should be permitted only when the original article is not readily available (eg, non English-language articles or

Academic Degrees, Certifications, and Honors
Roxanne K. Young

The following academic degrees are abbreviated in bylines and in the text when used with the full name of a person. (See also , Names and Titles of Persons.) In some circumstances, however, use of the abbreviation alone is acceptable (eg, Katharine is a doctor of medicine and also holds a PhD in biochemistry). (See also , Plurals, Abbreviations.) Generally, US fellowship designations (eg, FACP, FAAN, FACS) and honorary designations (eg, PhD[Hon]) are not used in bylines. In contrast, non-US designations such as the British FRCP and the Canadian FRCPC (attained through a series of qualifying examinations) should be listed

Accent Marks (Diacritics)
Brenda Gregoline
An accent mark (diacritic), when added to a letter, indicates a phonetic value different from that of the unmarked letter. English words once spelled with accent marks (e.g., cooperate, preeminent) now are written and printed without them. Consult the most recent edition of Merriam-Webster’s Collegiate Dictionary to resolve questions about whether a word should retain its accent. In general, English words in common usage should be spelled without diacritical marks. Accent marks should always be retained in the following instances: # Proper names Dr Bönneman is a Pew Scholar in the Biomedical Sciences. # When it is desirable to show

Acceptance Date
Cheryl Iverson

Some journals include the date of the manuscript’s acceptance; others include the date of manuscript submission, the date the revision was received, and the date accepted. Examples are shown below: Accepted for Publication: December 16, 2006. Submitted for Publication: November 22, 2004; final revision received May 13, 2005; accepted May 23, 2005.

Accepted Usage
Stephen J. Lurie and Margaret A. Winker

Spell out numbers for generally accepted usage, such as idiomatic expressions. One frequently appears in running text without referring to a quantity per se and may appear awkward if expressed as a numeral. When one may be replaced by a or a single without changing the meaning, the word one rather than the numeral is usually appropriate. Other numbers, most often zero, two, and large rounded numbers, also may be written as words in circumstances in which use of the numeral would place an unintended emphasis on a precise quantity or would be confusing. Any one of the 12 individuals might

Access to Data Requirement
Annette Flanagin

For all reports, regardless of funding source, containing original data (research and systematic reviews), at least 1 named author should indicate that she or he “had full access
to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis” (see also, Authorship Responsibility, Authorship: Definition, Criteria, Contributions, and Requirements). This responsibility can vest with the principal investigator, the corresponding author, or the article’s guarantor. While in some research groups, particularly small ones, all authors may have access to all of the data, it is usually not

Access to Data Statement
Annette Flanagin

UPDATE: The requirement for independent statistical analysis in industry-sponsored or industry-analyzed studies published in JAMA has been discontinued. This change was made July 10, 2013. The ICMJE recommends that editors request authors of studies funded by companies or agencies with proprietary or financial interests in the study outcomes to sign a statement indicating that they had access to all of the data and can vouch for the integrity of the data analyses. For example, for all reports containing original data, JAMA and some of the Archives Journals require at least 1 author (eg, the principal investigator) who is independent of

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Acknowledgment Elements and Order of Elements
Annette Flanagin

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