Dictionary of Abbreviations in Medicine and the Health Sciences

Harold K. Hughes

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Preface

Abbreviations are a way of life for most of us today, and we each learn those relatively few that are specific to our calling. We have little difficulty remembering that MPH means miles per hour or that ¢/lb means cents per pound. But in the health sciences, with their technical vocabularies and millions of professionals, the large number of active abbreviations overtaxes our memories, and new ones appear in each journal issue. We are forced, therefore, to memorize those we use most often but to disregard the larger number we encounter without a translation. It was to help the daily user of health-care abbreviations that this extensive list was compiled.

This dictionary covers usage in the United States, Canada, Great Britain, Ireland, other parts of English-using Europe, Australasia, southern Africa, and the United Nations. There are more than 12,000 entries with some 20,000 meanings.

The health sciences are taken to include clinical, research, and production activities in all phases of professional care; food and energy resources; remedial education; veterinary science; and safety.

Included are the abbreviations and the full names of health-related professional and industrial associations, boards, and commissions; government agencies; widely-circulated journals; Latin and Greek combining forms and terms employed in prescriptions and nursing procedures; anatomy and physiology; drugs and chemicals; analytical and therapeutic instruments; financial terms; and funding agencies.

An appendix provides a table of metric prefixes; a table of equivalents among quantities in apothecary (Troy), avoirdupois, British, and metric units; and tables for converting between temperatures expressed on celsius (centigrade) and fahrenheit scales.

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Guide to the Use of This Dictionary

This dictionary lists shortened forms of reference in one alphabetical sequence, whether the entry is an abbreviation such as mg (milligram), an acronym such as SYMBIOSIS (System for Medical and Biological Science Information Searching), or an initialism such as SAH (small animal hospital). For convenience all shortened forms are referred to simply as abbreviations.

Entries are alphabetized on the sequence of Roman letters regardless of spaces, hyphens, numerals, an ampersand (&), or a solidus(/) which may occur between them. Thus the abbreviation 2 G/DM is found after GDH and before GDMO.

The uppercase and lowercase letters I and l are easily confused with each other and the number 1, particularly in typed material. Searches involving these characters, therefore, should include more than one location.

Greek Letters

The general rule in any alphabetical sequence is that Greek letters follow Roman letters. When an abbreviation starts with a Greek letter, such as μg for microgram (10^{-6} gram), it is listed at the end of the dictionary in the section headed Greek Letters.

When an abbreviation containing a Greek letter starts with a Roman letter, such as mμ for millimicron (10^{-9} meter), it is listed at the end of that Roman letter section, in this case after all other M's. On occasion the Greek letter in a name is converted to the corresponding Roman letter in the abbreviation; beta-lactoglobulin, for example, is abbreviated BLG.

Chemical Names

An effort is made in this dictionary to include the abbreviation, if there is one in use, for every common chemical and drug of medical and health interest. Only the chemical groups are given in the meaning of an entry; numerals and Greek letters used as locators are generally omitted from both the abbreviation and its meaning. Thus the reagent 1,1,1,3,3,3-hexafluoro-isopropanol is listed as HFIP hexafluro-isopropanol. G6PD and 17KS are listed as GPD and KS. Likewise the Greek letters β,γ- are omitted from the name of the chemical β,γ- methylene-uridine triphosphate, abbreviated UOPOPCP.

The full structural name of a chemical may be found in other reference works such as commercial catalogs and The Merck Index.

Drugs of Abuse

This dictionary includes a large number of abbreviations, street names and slang for drugs of abuse. These will aid emergency and law-enforcement personnel when the user does not know the chemical name of the drug. It should be remembered, however, that many illicit drugs are actually substitutes for the substance named in the sale. Real mescaline, for example, is scarce on the illegal market. It is expensive to produce and almost all products sold on the street as mescaline are in fact something else. Adulteration by dilution is also very common. Thus the true nature of the abuse drug may be unknown until tests are run. Analytical procedures for identifying most illicit drugs from body samples (blood, urine, etc) are now available in well-staffed hospitals.

Journals

In this work a journal is defined as any serial that is issued at least once a year, bound or looseleaf. It includes those publications conventionally or by title designated as abstracts, annals, annual, archives, acta, bulletin, gazette, journal, monthly, newsletter, newspaper, proceedings, quarterly, record, review, tribune and yearly. A use of this list of synonyms for journal is described below.

Because there is variety in the manner of citing references, to include all possibilities for the hundreds of journals in medicine and the health sciences is not practical. In this dictionary each journal is listed just once by the initial letters of its name, excluding prepositions, articles and conjunctions. Thus the Journal of the American Medical Association is listed under JAMA although other abbreviations are used, such as J Am Med Assn and Am Med Assoc Jour.

When the journal name is a single short word, such as Blood, Clinics, Heart, Lancet, Pain and Update, the abbreviation is the full name. If the journal name is a single long word, such as Anesthesiology or Immunology, the entry is a shortened form, Anes and Immun in these examples. In all cases the full name, with no abbreviations or omission of words, is given for each journal abbreviation.

If you don't find the journal abbreviation you seek at its presumed alphabetical location, try inserting the initial of one of the synonyms for journal listed above. For example, the journal known to some as Biomedi-

cal Safety and Standards is listed as NBSS because its proper name is Newsletter of Biomedical Safety and Standards.

Variations in Endings

To avoid undue repetition of entries generally only one ending is attached to a basic root. For examples, there is only one meaning listed when the abbreviation can mean analysis, analyst, analyze or analytical; radiologist, radiogram or radiograph; audiologist, audiology, audiogram or auditory. It is assumed that the reader can supply the correct termination and grammatical construction from the context in which the abbreviation is employed.

Compound Abbreviations

There is almost no limit to the number of abbreviations that can be formed by combinations. While some compound abbreviations are listed, in other cases their meanings are found by looking at the separate parts. An illustration is CI-EI-GCMS which is composed of three separate abbreviations meaning, respectively, chemical ionization, electron impact, gas chromatography and mass spectroscopy. A unique abbreviation is listed, however, even though its parts appear separately. An example is HRSEM which abbreviates high resolution scanning electron microscope. Both HR and SEM are also listed separately. Another illustration is CMN-AA which abbreviates cystic medial necrosis of the ascending aorta.

Some drug abbreviations are compounded with the ending PT (prolonged time), X (extended release) or TD (timed disintegration) which describes the drug's delayed or long-acting character.

Parenthetical Notes

Following a meaning there may be a short comment in parentheses which provides more information about the entry. For a journal the comment may be its former or new name, or its sponsoring body. Example: JDE Journal of Dental Education (AADS). Under AADS we find the meaning American Association of Dental Schools, the publisher.

The full line of organizational responsibility may often be traced from the parenthetical comments. Example: ORS Office of Research Safety (NCI); NCI National Cancer Institute (NIH); NIH National Institutes of Health (HEW); HEW US Department of Health, Education and Welfare.

Some Canadian journals have dual names, one in English and the other in French. The parenthetical comment may cross-reference the other language. Example: CMAJ Canadian Medical Association Journal (JAMC); JAMC Journal de L'Association Médicale Canadienne (CMAJ).

When the parenthetical comment is simply (Greek) or (Latin) or (journal) the abbreviation is also the full meaning. Example: Headache (journal).

The atomic number (Z) follows each of the 105 chemical elements which are now named.

Periods, Plurals

As recommended by the American National Standards Institute (ANSI) there are no periods in abbreviations, with three exceptions. A period is added after No. (number) and after in. (inch) to avoid possible confusion with the words no and in. The third exception is the prescription notation 0. for a pint of liquid (Latin: octarius). This is derived from the Latin word for eight (octo) and is a reminder that a pint is one-eighth of a gallon.

Another ANSI standard is that there is no distinction between the abbreviations for singular and plural words. Thus NIH stands for National Institutes of Health and NCI stands for National Cancer Institute. One still encounters an added s for the plural of some units, such as cps for centipoises or ins for inches, but the preferred usage is to omit the s (cp and in.).

Missing and Added Letters

Through repeated use and familiarity many abbreviations become shortened by the omission of letters. In some laboratories SGOT (serum glutamic oxalacetic transaminase enzyme) is shortened to GOT or GT. The abbreviation MMEF means maximum midexpiratory flow but MMFR is the abbreviation for maximum midexpiratory flow rate. NCRP is the abbreviation for National Council on Radiation Protection and Measurements. DoT is shortened from USDoT (United States Department of Transportation). At one time mgm was the abbreviation for milligram but constant usage has now shortened this to mg.

In other cases, a letter is added as the abbreviation evolves with use, as in CFI (cost, freight and insurance included in the sale price) which at

one time was simply CF. There are three abbreviations for the Latin term omni hora (every hour): omn hor, om hor and om h.

If you don't find the abbreviation listed in exactly the form used by an author, look for it in a modified form.

Omitted Words

Articles, conjunctions, prepositions and the words test, syndrome, company and incorporated are ordinarily not represented in abbreviations. For example: ABr agglutination test for brucellosis; NIH National Institutes of Health; JCBB Journal of Cancer Biochemistry and Biophysics (UK). Perhaps the most common exception to this rule is the use of o or O in the abbreviation of some terms containing the word "of", such as CO complains of; H/O history of; IOM Institute of Medicine; LoM loss of motion; SNOP standard nomenclature of pathology; WOE wound of entry; YOB year of birth.

A list of generally-omitted words follows: a, about, against, an, and, at, by, de, de la, des, du, for, from, in, including, l', la, le, les, of, on, or, out, per, the, to, within and without.

Lower-case and Upper-case Letters

Outside technical fields there is a trend, although it is not well-established, to use all capital letters in abbreviations. No such trend is discernible in medicine and the health sciences. Thus, a variety of practice is met in this dictionary. For example, Ara-A and ara-A are both used as abbreviations for adenine arabinoside.

Where a choice is available a measure of consistency is introduced by employing the following rules:

1. Use all lower-case letters for a prefix (ad-); suffix (-osis); combining form (-em-); unit (sec); physical quantity (sp gr); adjective (ment=mental); verb (mi=mix), adverb (top=topically); preposition (o=of); conjunction (et=and); article (a); and all Latin abbreviations (s op s=if necessary).

2. Use all upper-case letters for a multi-syllabic compound name (MEG=megnetoencephalogram), or a multiple-word name (SOL=space-occupying lesion).

3. Use mixed lower- and upper-case letters for a noun (Med=medicine; Sal=salmonella).

Searching for an Abbreviation, Journal or Organization

Sometimes an abbreviation cannot be found in exactly the form sought, in which case the following suggestions may be helpful:

1. Try changing the order of some of the letters. For example, JCMA as an abbreviation for Journal of the Canadian Medical Association is not listed but you will find the correct abbreviation CMAJ for Canadian Medical Association Journal.

Reversal of letters by mistake occurs more frequently than one might suppose. A long search for the meaning of DNS ended when it was discovered that the author meant DSN (direct solids nebulizer). Similarly, it was found that SCHF was meant to be SCFH (standard cubic feet per hour), and EPD was a misprint for EDP (electronic data processing).

2. Sometimes a full abbreviation cannot be found in this dictionary but a part of it is listed and provides at least some information. An example is the abbreviation CTSP for computed tomography scanning physics which was discovered too late for inclusion. However, the meaning computerized tomography is under CT, and XCT is listed with the meaning X-ray transmission computed tomography.

3. The suggestions above may be helpful in finding the meaning of an abbreviation which is not in its presumed alphabetical location. A somewhat more difficult search is to locate the name of a journal or organization when only its existence is known but not its abbreviation or name. Such problems are sometimes solved by searching through entries which include the initial letter of an appropriate word from the following list:

abstracts	commission	newsletter
academy	committee	office
acta	council	organization
agency	current topics	proceedings
American	department	record
annals	European	review
annual	federation	Scandinavian
applied	gazette	society
archives	institute	South African
Australasian	international	transactions
Australian	Irish	tribune
association	Israel	United Nations
British	journal	United States
bulletin	medical	world
bureau	monthly	yearly
Canadian	national	

For example, the Journal of Leprosy was found under IJL International Journal of Leprosy. A search for an epilespy association turned up two names, NEL National Epilepsy League, and NACE National Association to Control Epilepsy.

How Abbreviations are Chosen

An abbreviation may be created in a variety of ways. Often it is a shortened form of a word, as Cod for codein, or a shortened form of several words such as mrem which abbreviates the physical quantity milliroentgen equivalent man. A long name such as American Board of Thoracic Surgery obviously becomes ABTS.

The origins of some abbreviations are obscure, as CVK for phenethicillin potassium where only the K as the chemical symbol for potassium is suggestive of the meaning. Another example is DOE whose origin as a name or abbreviation for someone taking illicit drugs is lost in obscurity.

An abbreviation may be a mixture of English and Latin as up ad lib, which means out-of-bed as desired (Latin: ad libitum), or it may be a mixture of initials and partial structural formula. Examples of the latter are: ppGpp guanosine-diphosphate-diphosphate, and GOPOPCP methylene-guanosine-triphosphate. In contrast guanosine triphosphate is abbreviated GTP. Another illustration is the abbreviation for diffusing (capacity) of the lungs for carbon monoxide, which is DLCO and not DCLCMO. Other examples are TBK total body potassium; LysOH and OHLys hydroxy-lysine; SSKI saturated solution of potassium iodide; and THO tritiated water.

Corrections and Additions

In a work of this size it is inevitable that mistakes and important omissions occur. The author will appreciate notice of these and will acknowledge all communications.

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A

a absent; accommodation; acidity total; ampere; anterior; asymmetric; atto (metric prefix for 10^{-18}); prefix meaning deficient, no, not, without (Greek and Latin); water (Latin: aqua); before (Latin: ante)

A a blood type; Abbott Laboratories and Warner-Lambert Pharmaceutical Co. code for experimental substances; absolute temperature (K preferred); absorbance; acceptor; accommodation; acetum; acidity total; Actinomyces; adenine; adenosine; adrenaline; adult; age; alanine; allergy; amphetamine; analysis; angstrom (10^{-10} meter); anode; Anopheles; anterior; aorta; area; argon (Z=18); artery; asthma; atomic weight; atropine; auricle; a vitamin; avo (metric prefix for 10^{-24}); axial; before (Latin: ante); mass number; start of anesthesia; water (Latin: aqua); year (Latin: annum)

A^- general symbol for a negative organic ion

A general symbol for a positive organic ion

A_2 aortic second sound

aa of each or equal parts (Latin: ana)

AA acetic acid; achievement age; Acta Allergologica (journal); Acta Anatomica (journal); activation analysis; Addicts Anonymous; Administration on Aging (OHD); affirmative action; Agents and Actions (journal); Alcoholics Anonymous; alveolar-arterial; aminoacetone; angular aperture (microscope); Annals of Allergy (journal); anterior aorta; aplastic leukemia; arteries; ascending aorta; Association of Anesthetists; atomic absorption; audiometric assistant; Auger analysis

A&A aid and attendance payment (VA); Anesthesia and Analgesia (journal)

aaa amalgam (obsolete)

AAA abdominal aortic aneurysm; acquired aplastic anemia; acute anxiety attack; adenylyl adenylyl adenosine; Advances in Automated Analysis (journal); Ambulance Association of America; American Academy of Allergy; American Anthropology Association; American Arbitration Association; American Association of Anatomists; androgenic anabolic agent; atomic absorption analysis

AAACRR American Association of Academic Chief Radiology Residents

AAALAC American Association for Accreditation of Laboratory Animal Care

AAAM American Association for Automotive Medicine

AAAMQ American Association for Automotive Medicine Quarterly

AAAN American Academy of Applied Nutrition

AAAS American Academy of Arts and Sciences; American Association for The Advancement of Science

AAB American Association of Bioanalysts

AABA alpha aminobutyric acid; American Association of Bioanalysts

AABB American Association of Blood Banks

AABC Association for the Advancement of Blind Children

AABEVM Association of American Boards of Examiners in Veterinary Medicine

AABGA American Association of Botanical Gardens and Arboreta

AABT Association for Advancement of The Behavioral Therapies

AAC Association of Analytical Chemists
AACC American Association of Clinical Chemists; Association for the Aid of Crippled Children
AACCN American Association of Critical-Care Nurses
AACCP American Association of Colleges of Chiropody-Podiatry
AACE American Association for Cancer Education
AACLSA American Association of Clinical Laboratory Supervisors and Administrators
AACM American Academy of Compensation Medicine
AACN American Association of Colleges of Nursing
AACO American Association of Certified Orthoptists
AACOMAS American Association of Colleges of Osteopathic Medicine Application Service
AACP American Academy for Cerebral Palsy; American Academy of Child Psychiatry; American Academy of Clinical Psychiatry; American Association of Colleges of Pharmacy; American Association of Colleges of Podiatry; American Association of Correctional Psychologists
AACPJ American Academy of Child Psychiatry Journal
AACPM American Association of Colleges of Podiatric Medicine
AACPR American Association for Cleft Palate Rehabilitation
AACPS American Association of Clinic Physicians and Surgeons
AACR American Association for Cancer Research
AACU American Association of Clinical Urologists
AAD alloxazine adenine dinucleotide; American Academy of Dentists; American Academy of Dermatology; Association of American Dentists
AAdA aminoadipic acid
AADE American Association of Dental Editors; American Association of Dental Examiners
AADEBB American Association of Dental Examiners Board Bulletin
AADM American Academy of Dental Medicine
AADN American Association of Doctors' Nurses
AADP American Academy of Denture Prosthetics
AADPA American Academy of Dental Practice Administration
AADR American Academy of Dental Radiology; American Association for Dental Research
AADS American Association of Dental Schools
AAE American Association of Endodontists
AAEC Australian Atomic Energy Commission
AAEE American Academy of Environmental Engineers
AAEH Association to Advance Ethical Hypnosis
AAF acetic acid/alcohol/formalin mixture; acetyl-amino-fluorine (carcinogen); Army Air Force; ascorbic acid factor
AAFGH Al-Anon Family Group Headquarters
AAFM American Association of Feed Microscopists
AAFP American Academy of Family Physicians (formerly AAGP)
AAFPRS American Academy of Facial, Plastic and Reconstructive Surgery
AAFS Association for the Advancement of Family Stability; atomic absorption flame spectrometer; Australian Academy of Forensic Sciences