

## MEDLINE® (Dialog Files 154, 155) Descriptors, Descriptor Codes and Online Thesaurus

### DESCRIPTORS (/DE, /DE\*, /DF, /DF\*)

Descriptors are subject index terms and phrases assigned to records to characterize the substantive content of the original document. MEDLINE records are indexed using controlled vocabulary Medical Subject Headings (MeSH®). MeSH® descriptors are revised annually and all MEDLINE records are updated yearly with these changes. There are 10-15 descriptors per record to characterize accurately the content of the original document. MeSH® descriptors are often plural rather than singular, and may be inverted, e.g., ABNORMALITIES, DRUG-INDUCED. Descriptors are indexed as complete phrases and also by the individual words. All assigned descriptors are searched when the /DE suffix is used. In addition, each MeSH® term has one or more descriptor code numbers (MeSH® Tree Numbers) searchable as DC=.

**Single-word descriptors.** Since descriptors are also indexed by individual word, it is useful to be able to differentiate between a single word as the full descriptor and the same word as part of a multiple-word descriptor. Single-word descriptors may be searched using the /DF suffix to retrieve only the word as the full descriptor, e.g., SELECT CHILD/DF.

**Major MeSH® descriptors.** Descriptors representing the main emphasis of the article are major descriptors and are designated by an asterisk (\*) in front of the descriptor. The /DE\* and /DF\* suffixes can be used to restrict retrieval to records in which the specified term is a major MeSH® descriptors. Alternatively, the /MAJ suffix can be used to limit retrieval to major descriptors. The remaining descriptors are minor descriptors, which are included in the search when the asterisk is not used and are displayed in a record without asterisks.

**MeSH subheadings.** MeSH® descriptors may also be subdivided by means of topical subheadings. Subheadings are used to restrict retrieval to precisely the aspect of the topic desired, such as Cluster Headache--Etiology--ET. They may be used only with allowable categories of MeSH® descriptors. Subheadings included in the Descriptor field are searchable as individual terms or as bound phrases. Use the (L) operator to link the main heading and subheading combination desired. Subheadings can be searched by full name or two-letter abbreviations, for example SURGERY OR SU. EXPANDING in the Basic Index helps to identify descriptors and associated subheadings to facilitate retrieval. In the following EXPAND list the subheadings associated with the descriptor ADRENAL GLAND DISEASES are displayed:

Ref	Items	RT	Index-term
? EXPAND ADRENAL GLAND DISEASES			
E1	0	1	ADRENAL FASCICULATA
E2	144		ADRENAL FUNCTION TESTS //PITUITARY (PITUITARY-ADRENAL FUNCTION TESTS)
E3	1482	17	*ADRENAL GLAND DISEASES
E4	53		ADRENAL GLAND DISEASES --BLOOD --BL
E5	45		ADRENAL GLAND DISEASES --CHEMICALLY INDUCED --
E6	3		ADRENAL GLAND DISEASES --CLASSIFICATION --CL
E7	287		ADRENAL GLAND DISEASES --COMPLICATIONS --CO
E8	28		ADRENAL GLAND DISEASES --CONGENITAL --CN
E9	574		ADRENAL GLAND DISEASES --DIAGNOSIS -DI
...			

Appropriate E numbers can be selected from the EXPAND list. Retrieval is faster when SELECTed from the EXPAND display because the descriptor-subheading postings are pre-coordinated.

Note the occurrence of the term ADRENAL FUNCTION TEST followed by two slashes (/). The slashes are used to identify a rotated or permuted descriptor, e.g., PITUITARY-ADRENAL FUNCTION TEST. Multiple-word descriptors are rotated in the Basic Index to provide a KWOC (Key-Word-Out-of-Context) index to all words found in MeSH® descriptor phrases. The double slash indicates that the word following is the first word of the complete MeSH® heading. The phrase in parentheses is the complete heading. EXPANDING on the complete MeSH® heading identifies postings and subheadings:

? EXPAND PITUITARY-ADRENAL FUNCTION TESTS			
Ref	Items	RT	Index-term
E1	0	1	PITUITARY TSH-SECRETING CELLS
E2	215		PITUITARY TUMOR-TRANSFORMING PROTEINS
E3	144	2	*PITUITARY-ADRENAL FUNCTION TESTS
E4	1		PITUITARY-ADRENAL FUNCTION TESTS --ADVERSE EFF
E5	33		PITUITARY-ADRENAL FUNCTION TESTS --METHODS --M
E6	2		PITUITARY-ADRENAL FUNCTION TESTS --STANDARDS -
E7	1		PITUITARY-ADRENAL FUNCTION TESTS --STATISTICS
E8	8		PITUITARY-ADRENAL FUNCTION TESTS -VETERINARY
...			

### ONLINE THESAURUS

MeSH® terms and the relationships among them have been incorporated into an online thesaurus based on the Medical Subject Headings (MeSH®) thesaurus. EXPANDING any term in the Basic Index identifies these relationships. The relationships shown are:

- X = "see" cross-reference
- R = related terms
- B = broader terms
- N = narrower terms

In the following example, EXPANDING the term VIRUS INTEGRATION gives 12 related terms. Note that the EXPAND display also identifies the number of items associated with subheadings linked to the descriptor.

? EXPAND VIRUS INTEGRATION			
Ref	Items	RT	Index-term
E1	306		VIRUS INFECTIONS //RNA (RNA VIRUS INFECTIONS)
E2	8943		VIRUS INFECTIONS //TUMOR (TUMOR VIRUS INFECTIONS)
E3	2437	12	*VIRUS INTEGRATION
E4	108		VIRUS INTEGRATION --DRUG EFFECTS --DE
E5	501		VIRUS INTEGRATION --GENETICS --GE
E6	24		VIRUS INTEGRATION --IMMUNOLOGY --IM
E7	163		VIRUS INTEGRATION --PHYSIOLOGY --PH

EXPANDING the E number (E3) term indicates the relationship of the related terms:

? EXPAND E3				
Ref	Items	Type	RT	Index-term
R1	2437		12	*VIRUS INTEGRATION
R2	2437	X		DC=G5.355.930. (VIRUS INTEGRATION)
R3	2437	X		DC=G6.590.875.750. (VIRUS INTEGRATION)
R4	2437	X		DC=G6.920.875.750. (VIRUS INTEGRATION)
R5	0	X	1	INTEGRATION, PROVIRUS
R6	0	X	1	INTEGRATION, VIRUS
R7	0	X	1	PROVIRUS INTEGRATION
R8	413	R	7	ATTACHMENT SITES, MICROBIOLOGICAL
R9	3493	R	6	INTEGRASES
R10	3325	R	5	PROVIRUSES
R11	25	B	130	GENETIC PROCESSES
R12	2	B	18	VIRUS PHYSIOLOGICAL PROCESSES
R13	1020	N	10	LYSOGENY

There are narrower terms, broader terms, and related terms. There are also cross-references to descriptor codes (searchable with the DC= prefix) and to "see" cross-reference terms. Any search term may be selected from the latest EXPAND list by its E or R number for inclusion in a search statement. If the exact form of the MeSH® descriptor is known, it can be EXPANDED directly to see the online thesaurus entries by placing the term within parentheses, retaining exact spacing and punctuation, e.g., EXPAND (HEART DISEASES).

**The Explode (!) feature.** The Explode feature can be used with MeSH® descriptors. MeSH® descriptors that have narrower terms can be retrieved in a single search statement using the exclamation mark (!) with that descriptor. For example, all occurrences of the term, LYME DISEASE, as a descriptor, plus the narrower term ERYTHEMA CHRONICUM MIGRANS and LYME NEUROBORRELIOSIS as descriptors, can be retrieved with SELECT LYME DISEASE! Multiple terms can be exploded in a single search statement, e.g., SELECT GLOMERULONEPHRITIS! AND INTERFERONS! The (L) operator can be used to link MeSH® subheadings to exploded MeSH® headings, e.g., SELECT ESOPHAGEAL DISEASES! (L)SURGERY. MeSH® descriptors can also be exploded using the descriptor codes with ending truncation.

**Cascaded (or pre-exploded) descriptors.** Many descriptors have been cascaded (pre-exploded) to allow faster retrieval of large categories of MeSH® descriptors. These pre-exploded descriptors are identified in an online thesaurus EXPAND display by an exclamation mark (!) in the TYPE column; the phrase CASCADED TERM followed by the descriptor code is also displayed with zero postings. The appropriate R number can be selected, e.g., SELECT R3 in the following example:

? EXPAND (AMINO ACIDS)				
Ref	Items	Type	RT	Index-term
R1	36609		3	*AMINO ACIDS
R2	0			CASCADED TERM/DC=D12.125.
R3	321599	!		DC=D12.125. (AMINO ACIDS)
R4	676	R	13	RECEPTORS, AMINO ACID
...				

Alternatively, the descriptor term can be selected directly using the explode character (i.e., SELECT AMINO ACIDS!) or by searching the descriptor code (i.e., SELECT DC=D12.125.). The use of the descriptor code with the ending period is recommended over truncation because of faster retrieval.

## DESCRIPTOR CODES

Each MeSH® descriptor has a corresponding alphanumeric descriptor code that is also called the MeSH® Tree Number. A descriptor code has from 1 to 7 periods. Descriptor codes are searchable using the DC= prefix and must have a closing period. They can be truncated. Use truncation to retrieve a code plus all associated terms, as well as all codes and terms that are lower in the tree structure. To determine appropriate descriptor codes for a term, EXPAND the term within parentheses in the online thesaurus, e.g., EXPAND (BRAIN). Descriptor codes are not displayed with the predefined output formats.

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### DIALOG

#### Regional Headquarters

2250 Perimeter Park Drive  
Suite 300  
Morrisville, North Carolina 27560  
Tel: +1 919 804 6400

#### Europe, Middle East & Africa

St. Andrews House  
18-20 St. Andrew Street  
London EC4A 3AG  
UNITED KINGDOM  
Tel: +44 (0) 20 7832 1700

Contact Dialog's Knowledge Center:  
email: [customer@dialog.com](mailto:customer@dialog.com)

Tel: +1 800-3-DIALOG (North America)

+ 00 800-3334-2546 (Rest of World)