
Selected Cases for Study of Ambiguity in the UMLS[®] Metathesaurus[®]

July 5, 2000

1. Selected Cases

The Metathesaurus terms below are the remaining candidates for use as test cases in the Word Sense Disambiguation Test Collection (WSD TC).

1.1 [168] Match Phrase: **adjustment** Count: 29499 --- Example Seq_No: 14304

~~Adjustment <4>@clas [Classification]~~

Adjustment <3> (Adjustment Action)@ftcn [Functional Concept]

RCD98

Attribute [X75Mq]

Action [XC00r]

Adjustment [Xa09s]

~~Adjustment, NOS (Clinical Adjustment)@hlca [Health Care Activity]~~

RCD98

Additional values [X78tJ]

Activities, functions and processes [XaBfV]

Clinical action [XM0Zw]

Clinical actions A-O [XM0II]

Adjustments [X79tc]

Adjustment <1> (Individual Adjustment)@inbe [Individual Behavior]

Conceptually broad array term referring to a state of harmony between internal needs and external demands and the processes used in achieving this condition. Use a more specific term if possible. Differentiate from ADAPTATION, which refers to physiological or biological adaptation.

adjustment <5> (Psychological adjustment)@menp [Mental Process]

AOD95

concepts in psychology and thought [F]

psychology [FA]

adjustment [FM]

See 1999 ambiguity study.

1.2 Match Phrase: **association** Count: 270967 --- Example Seq_No: 3527

association <1> (Mental association)@menp [Mental Process]

A functional relationship between psychological phenomena of such nature that the presence of one tends to evoke the other; also, the process by which such a relationship is established.

MSH99

Psychiatry and Psychology (MeSH Category) [F]

Psychological Phenomena and Processes [F2]

Mental Processes [F2.463]

Learning [F2.463.425]

Association [F2.463.425.69]

association <2> (Relationship by association)@soeb [Social Behavior]

AOD95

social sciences, economics, and law [L]

social psychology [LA]

type of relationship and interaction [LU]
 degree of relationship [LV]
 related and unrelated [LV2]
 relatedness, relationship [LV2.2]
 association [LV2.2.2]

1.3 Match Phrase: **blood,pressure** Count: 242887 --- Example Seq_No: 4113

Blood pressure <4> (Arterial pressure)@lbr [Laboratory or Test Result]
 RCD98

Read thesaurus [.....]

Clinical findings [XaBVJ]

History and observations [X76sU]

Clinical history and observations [X76sV]

Cardiovascular observations [XM02q]

General cardiovascular observations [Xa7tB]

Blood vessel observation [X76Kq]

Arterial observation [X76L4]

Systemic arterial observation [Xa7sT]

Blood pressure [X773t]

~~BLOOD PRESSURE <3> (BP)@orga [Organism Attribute]~~

Blood Pressure <1>@orgf [Organism Function]

MSH99

Biological Sciences (MeSH Category) [G]

Circulatory and Respiratory Physiology [G9]

Cardiovascular Physiology [G9.330]

Hemodynamics [G9.330.612]

Blood Pressure [G9.330.612.114]

Blood Pressure <2> (Blood Pressure Determination)@diap [Diagnostic Procedure]

Actions to measure the diastolic and systolic pressure of the blood.

Techniques for measuring blood pressure.

MSH99

Analytical, Diagnostic and Therapeutic Techniques and Equipment (MeSH Category) [E]

Diagnosis [E1]

Diagnostic Techniques and Procedures [E1.370]

Diagnostic Techniques, Cardiovascular [E1.370.370]

Blood Pressure Determination [E1.370.370.140]

Senses two and three seem to be the same, and sense two is not well-defined. Also, the fourth sense rarely, if ever, occurs.

1.4 [163] Match Phrase: **cold** Count: 29919 --- Example Seq_No: 15677

COLD <3> (Chronic Obstructive Airway Disease)@dsyn [Disease or Syndrome]

chronic, irreversible obstruction of air flow from the lungs.

Any disorder marked by persistent obstruction of bronchial air flow.

MSH99

Diseases (MeSH Category) [C]

Respiratory Tract Diseases [C8]

Lung Diseases [C8.381]

Lung Diseases, Obstructive [C8.381.495]

Cold <5> (Cold Sensation)@qlco,sosy [Qualitative Concept | Sign or Symptom]

RCD98

Additional values [X78tJ]

Descriptors [XM0Dh]

Sensations [XM0EQ]

Cold [XC06u]

Cold <4> (Cold Therapy)@topp [Therapeutic or Preventive Procedure]

A form of therapy consisting in the local or general use of cold. The selective destruction of tissue by extreme cold or freezing is CRYOSURGERY. (McGraw-Hill Dictionary of Scientific and Technical Terms, 4th ed)
The use of cold to treat disease.

MSH99

Analytical, Diagnostic and Therapeutic Techniques and Equipment (MeSH Category) [E]

Therapeutics [E2]

Physical Therapy [E2.780]

Cryotherapy [E2.780.164]

Cold <2> (Common Cold)@dsyn [Disease or Syndrome]

A catarrhal disorder of the upper respiratory tract, which may be viral, a mixed infection, or an allergic reaction. It is marked by acute coryza, slight rise in temperature, chilly sensations, and general indisposition. (Dorland, 27th ed)

MSH99

Diseases (MeSH Category) [C]

Virus Diseases [C2]

RNA Virus Infections [C2.782]

Picornaviridae Infections [C2.782.687]

Common Cold [C2.782.687.207]

Cold <1> (cold temperature)@npop [Natural Phenomenon or Process]

An absence of warmth or heat or a temperature notably below an accustomed norm.

MSH99

Physical Sciences (MeSH Category) [H]

Physical Sciences [H1]

Physics [H1.671]

Temperature [H1.671.868]

Cold [H1.671.868.272]

Consider using only the second, fourth and fifth senses.

See ambiguity studies.

All senses will be shown; the rare or non-existent ones will simply not occur.

1.5 Match Phrase: **condition|conditioning** Count: 390143 --- Example Seq_No: 4973

Condition@qlco [Qualitative Concept]

RCD98

Attribute [X75Mq]

Condition [X905K]

Conditioning (Conditioning (Psychology))@menp [Mental Process]

process by which an organism can be made to respond to a previously neutral (conditioned) stimulus as it would to another (unconditioned) stimulus by pairing the two stimuli; e.g., pairing a bell with food eventually will make a dog salivate when bell is heard.

A general term referring to the learning of some particular response.

SNM2

Function Axis

Function and Abnormal Function of the Nervous and Musculoskeletal Systems

Functions and Functional Disorders of the Nervous System

Conditioning and Stimulus Functions and Disorders

Conditioning [F-85210]

1.6 Match Phrase: **culture** Count: 468473 --- Example Seq_No: 3676

Culture <1> (Anthropological Culture)@idcn [Idea or Concept]

A collective expression for all behavior patterns acquired and socially transmitted through symbols. Culture includes customs, traditions, and language.

MSH99

Anthropology, Education, Sociology and Social Phenomena (MeSH Category) [I]

Social Sciences [I1]

Anthropology [I1.76]

Anthropology, Cultural [I1.76.201]

Culture [I1.76.201.450]

Culture <3> (Laboratory culture)@lbpr [Laboratory Procedure]

RCD98

Operations, procedures and interventions [Xa22Y]

Investigations [X77W7]

Microbiology test [X77b5]

Culture [4J17.]

~~culture <2>@qlco [Qualitative Concept]~~

Third sense is not well-defined; drop it.

1.7 Match Phrase: **degree** Count: 245795 --- Example Seq_No: 8311

Degree <1>@qlco [Qualitative Concept]

RCD98

Attribute [X75Mq]

Extent [X9041]

Degree [X75Pd]

degree <2>@inpr [Intellectual Product]

AOD95

communication, information, and education [N]

education and training [NF]

academic performance and evaluation [NF28]

recognition of achievement [NF28.6]

degree [NF28.6.2]

Second sense may be rare.

1.8 Match Phrase: **depression** Count: 163295 --- Example Seq_No: 1472

Depression <2> (Depression motion)@ftcn [Functional Concept]

RCD98

Additional values [X78tJ]

Descriptors [XM0Dh]

Motions [XM0EV]

Depression - motion [X78x6]

~~Depression NOS <2> (Depressive episode, unspecified)@mobd [Mental or Behavioral Dysfunction]~~

ICD10

Mental, behavioural disorders

Mood [affective] disorders

Depressive episode

Depressive episode, unspecified [F32.9]

Depression <1> (Mental Depression)@mobd [Mental or Behavioral Dysfunction]

unpleasant, but not necessarily irrational or pathological, mood state characterized by sadness, despair, or discouragement; "the blues"; may also involve low self-esteem, social withdrawal, and somatic symptoms such as eating and sleep disturbance.

Depressive states usually of moderate intensity in contrast with major depression present in neurotic and psychotic disorders.

Mild depression in normal populations. Prior to 1988, also used for major depression in clinical populations.

MSH99

Psychiatry and Psychology (MeSH Category) [F]

Behavior and Behavior Mechanisms [F1]

Behavior [F1.145]
 Behavioral Symptoms [F1.145.126]
 Depression [F1.145.126.350]

Senses two and three seem to be the same; choose one.

1.9 Match Phrase: **determination** Count: 509719 --- Example Seq_No: 42

determination <1> (adjudication)@gora [Governmental or Regulatory Activity]
 AOD95
 social sciences, economics, and law [L]
 law enforcement and the justice system [MO]
 justice system process and procedures [MO4]
 adjudication [MO4.18]

determination <2>@lbpr [Laboratory Procedure]

No definitions (and no hierarchy for the 'Laboratory Procedure').

1.10 Match Phrase: **discharge** Count: 113069 --- Example Seq_No: 2568

Discharge, NOS (Discharge, Body Substance)@bdsu [Body Substance]
 SNM2
 Morphology Axis
 Mechanical Abnormality
 Engorgement, Congestion and Extravasation
 Discharges
 Discharge [M-36800]

Discharge <3> (Discharge, Body Substance, Sample)@bdsu [Body Substance]
 RCD98

Additional values [X78tJ]
 Substances, materials and objects [XaBfU]
 Pathology sample [XE2sX]
 General biological sample [Xa979]
 Body substance sample [XaBiT]
 Discharge - sample [X7AAO]

Discharge <1> (Patient Discharge)@hlca [Health Care Activity]

The administrative process of discharging the patient, live or dead, from hospitals or other health facilities.

PCDS97

HEALTH BEHAVIOR, HEALTH PROMOTION, AND HEALTH RESTORATION COMPONENT [G]

Discharge [U000031]

1.11 Match Phrase: **energy** Count: 187985 --- Example Seq_No: 9667

energy <3> (Energy (physics))@npop [Natural Phenomenon or Process]
 AOD95
 natural science [C]
 physical science [CA]
 basic physical science concepts [CB]
 energy [CB18]

Energy <2>@fndg [Finding]

NOC97

Physiologic Health [2]
 Nutrition [K]
 Nutritional Status [1004]
 Energy [100403]

Energy <1> (Vitality)@fndg [Finding]

RCD98

Clinical findings [XaBVJ]

History and observations [X76sU]
 Clinical history and observations [X76sV]
 General observation of patient [Xa1bt]
 General well being [X76AT]
 Energy and stamina [X76Aa]
 Observation of general energy [Xa7w7]
 Energy [X76Ah]

Senses two and three seemed to be the same to me, but Susanne argues for all three; please review.

1.12 [28] Match Phrase: **evaluation** Count: 126449 --- Example Seq_No: 962

Evaluation@inpr,resa [Intellectual Product | Research Activity]

Conceptually broad term referring to the appraisal of the characteristics, significance, importance, or relative value of a person, organization, or thing.

AOD95

research method and research organization [R]
 research and evaluation method [RC]
 purpose of study [RF]
 research and evaluation [RF2]
 evaluation [RF2.6]

~~Evaluation <4>@hlca [Health Care Activity]~~

ALT98

Alternative Laboratory and In-Office Procedures [D]
 Pulmonary [DC]
 Evaluation [DCA]

evaluation <2> (Health evaluation)@hlca [Health Care Activity]

Suppress second sense as being too specific.

See 2000 ambiguity study.

1.13 Match Phrase: **extraction** Count: 175175 --- Example Seq_No: 7617

Extraction, NOS@topp [Therapeutic or Preventive Procedure]

SNMI98

PROCEDURES

OPERATIONS AND ANESTHESIA PROCEDURES

GENERIC OPERATIVE PROCEDURES

MANIPULATIONS

Extraction, NOS [P1-0E300]

extraction <1>@lbpr [Laboratory Procedure]

AOD95

natural science [C]
 physical and chemical analysis and measurement [CQ]
 separation method [CQ2]
 extraction [CQ2.16]

1.14 Match Phrase: **failure** Count: 130583 --- Example Seq_No: 17

Failure, NOS@patf [Pathologic Function]

SNM2

Function Axis

General Body Function and Dysfunction

General Metabolic Functions and Activities

Failure [F-04400]

failure <1>@sobc [Social Behavior]

AOD95

social sciences, economics, and law [L]

social psychology [LA]
 type of relationship and interaction [LU]
 collaboration, competition, conflict, and outcome [LX]
 success and failure [LX12]
 failure [LX12.6]

1.15 Match Phrase: **fat** Count: 103171 --- Example Seq_No: 5351

Fat <2> (Fatty acid glycerol esters)@lipd [Lipid]

The glyceryl esters of a fatty acid, or of a mixture of fatty acids. They are generally odorless, colorless, and tasteless if pure, but they may be flavored according to origin. Fats are insoluble in water, soluble in most organic solvents. They occur in animal and vegetable tissue and are generally obtained by boiling or by extraction under pressure. They are important in the diet (DIETARY FATS) as a source of energy and vitamin C. (Grant & Hackh's Chemical Dictionary, 5th ed)

FAT <1> (Obese build)@orga [Organism Attribute]

RCD98

Clinical findings [XaBVJ]

History and observations [X76sU]

Clinical history and observations [X76sV]

General observation of patient [Xa1bt]

General observation of appearance [Xa7vj]

General form of body [XM01B]

Physique [X76BC]

Obese build [XM00v]

1.16 Match Phrase: **fit** Count: 12076 --- Example Seq_No: 40855

Fit <3> (Fit and well)@fndg [Finding]

RCD98

Clinical findings [XaBVJ]

History and observations [X76sU]

Clinical history and observations [X76sV]

General observation of patient [Xa1bt]

General well being [X76AT]

Fit and well [Xa96k]

Fit <2> (Seizures)@dsyn,soy [Disease or Syndrome | Sign or Symptom]

Attacks of cerebral origin consisting of sudden and transitory abnormal phenomena of a motor, sensory, autonomic or psychic nature resulting from transient dysfunction of the brain.

MSH99

Diseases (MeSH Category) [C]

Nervous System Diseases [C10]

Neurologic Manifestations [C10.597]

Seizures [C10.597.742]

1.17 Match Phrase: **fluid** Count: 115319 --- Example Seq_No: 576

Fluid <2>@qlco [Qualitative Concept]

RCD98

Additional values [X78tJ]

Descriptors [XM0Dh]

Behaviour descriptors [X78vs]

Fluid [X79BF]

fluid <1> (Liquid substance, NOS)@sbst [Substance]

RCD98

Additional values [X78tJ]

Descriptors [XM0Dh]

Consistencies [Xa0IV]

Liquid [XC0Qi]

1.18 Match Phrase: **frequency** Count: 366935 --- Example Seq_No: 5022

Frequency <2> (Frequencies)@tmco [Temporal Concept]

RCD98

Additional values [X78tJ]

Descriptors [XM0Dh]

Time patterns [XM0Dl]

Frequencies [XM0E5]

Frequency <3> (Increased frequency of micturition)@fndg,sosy [Finding | Sign or Symptom]

ICD99

DISEASES AND INJURIES

SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS

SYMPTOMS

Symptoms involving urinary system

Frequency of urination and polyuria

Urinary frequency [788.41]

~~Frequency (Withfrequency)@tmco [Temporal Concept]~~

RCD98

Attribute [X75Mq]

Temporal relationship [X9046]

Frequency [X9047]

Second sense is contextual; remove it.

The first and third senses may not be well-defined; please review.

1.19 [818] Match Phrase: **ganglion** Count: 2627 --- Example Seq_No: 144462

Ganglion, NOS (Benign cystic mucinous tumour)@acab [Acquired Abnormality]

A benign cystic tumor occurring on an aponeurosis or tendon, as in the wrist or dorsum of the foot; it consists of a thin fibrous capsule enclosing a clear mucinous fluid.- Dorland's Illustrated Medical Dictionary (twenty-sixth Edition)

SNM2

Morphology Axis

Mechanical Abnormality

Retention of Content

Cysts

Cyst, ganglion [M-33600]

ganglion <2> (Ganglia)@bpoc [Body Part, Organ, or Organ Component]

A general term for a group of nerve cell bodies located outside the central nervous system. It is occasionally applied to certain nuclear groups within the brain or spinal cord, e.g., BASAL GANGLIA. (Dorland, 27th ed) is an organ component of one or more nerves, which primarily consists of cell bodies of neurons located outside the central nervous system; together with nerve fibers, it constitutes a nerve or a nerve plexus

UWDA97

Anatomical entity [12820]

Physical anatomical entity [12821]

Anatomical structure [3708]

Organ part [9898]

Organ component [14065]

Macroscopic organ component [10467]

Macroscopic organ component of nerve [12227]

Ganglion [5884]

See 2000 ambiguity study.

1.20 Match Phrase: **glucose** Count: 188019 --- Example Seq_No: 19066

Glucose@bacs,carb [Biologically Active Substance | Carbohydrate]

D-Glucose. A primary source of energy for living organisms. It is naturally occurring and is found in fruits and other parts of plants in its free state. It is used therapeutically in fluid and nutrient replacement.

MSH99

Chemicals and Drugs (MeSH Category) [D]

Carbohydrates and Hypoglycemic Agents [D9]

Carbohydrates [D9.203]

Monosaccharides [D9.203.546]

Hexoses [D9.203.546.359]

Glucose [D9.203.546.359.448]

Glucose <2> (Glucose measurement)@lbpr [Laboratory Procedure]

SNMI98

PROCEDURES

LABORATORY PROCEDURES AND SERVICES

CHEMISTRY PROCEDURES

SPECIFIC SUBSTANCE CHEMISTRY TESTS

Glucose measurement, NOS [P3-72940]

1.21 Match Phrase: **growth** Count: 327039 --- Example Seq_No: 10365

Growth <1>@orgf [Organism Function]

A normal increase in body size and weight

MSH99

Biological Sciences (MeSH Category) [G]

Physiological Processes [G7]

Growth and Embryonic Development [G7.553]

Growth [G7.553.481]

growth <2>@ftcn [Functional Concept]

1.22 Match Phrase: **immunosuppression** Count: 5336 --- Example Seq_No: 14522

immunosuppression <2> (Natural immunosuppression)@orgf [Organism Function]

natural, usually physiologic downregulation of the immune system; compare with ARTIFICIAL IMMUNOSUPPRESSION.

SNM2

Function Axis

Function and Functional Units of the Immune System

Immunologic Responses and Immune States

Immunosuppression [F-41380]

Immunosuppression <1> (Therapeutic immunosuppression)@topp [Therapeutic or Preventive Procedure]

deliberate suppression of immune system function for experimental or therapeutic purposes.

Prevention or inhibition of the immune system to respond to foreign substances in the body.

Therapy used to decrease the body's immune response, such as drugs given to prevent transplant rejection.

MSH99

Analytical, Diagnostic and Therapeutic Techniques and Equipment (MeSH Category) [E]

Therapeutics [E2]

Biological Therapy [E2.95]

Immunotherapy [E2.95.520]

Immunosuppression [E2.95.520.450]

1.23 Match Phrase: **implantation** Count: 13864 --- Example Seq_No: 7102

Implantation <1> (Blastocyst Implantation, natural)@orgf [Organism Function]

Endometrial implantation of the blastocyst.

MSH99

Biological Sciences (MeSH Category) [G]
 Reproductive and Urinary Physiology [G8]
 Reproduction [G8.520]
 Ovum Implantation [G8.520.500]

Implantation <2> (Implantation procedure)@topp [Therapeutic or Preventive Procedure]
 Therapeutic insertion of inert or radioactive material

SNM2

Procedure Axis
 Operations and Anesthesia Procedures
 Injection - Implantation
 Implantation [P-1270]

1.24 Match Phrase: **inhibition** Count: 373527 --- Example Seq_No: 195

Inhibition <1> (Psychological inhibition)@menp [Mental Process]

The interference with or prevention of a behavioral or verbal response even though the stimulus for that response is present; in psychoanalysis the unconscious restraining of an instinctual process.

MSH99

Psychiatry and Psychology (MeSH Category) [F]
 Behavior and Behavior Mechanisms [F1]
 Behavior [F1.145]
 Inhibition (Psychology) [F1.145.544]

Inhibition, NOS (inhibition, physical)@moft [Molecular Function]

The depression or arrest of a metabolic function.

SNM2

Function Axis
 General Body Function and Dysfunction
 General Metabolic Functions and Activities
 Inhibition [F-04170]

1.25 Match Phrase: **japanese** Count: 10056 --- Example Seq_No: 1972

Japanese <2> (Japanese Population)@popg [Population Group]

CSP98

named group [4005-0038]
 ethnic group [2725-3724]
 Asian /Pacific Islander [2725-9372]
 Japanese [2726-0024]

Japanese <1> (Japanese language)@lang [Language]

RCD98

Additional values [X78tJ]
 Intellectual concepts and systems [XaC2o]
 World languages [Xa6bm]
 Independent language [Xa6eQ]
 Japanese language [Xa6eU]

1.26 Match Phrase: **lead** Count: 152811 --- Example Seq_No: 1118

Lead@elii [Element, Ion, or Isotope]

A soft, grayish metal with poisonous salts; atomic number 82, atomic weight 207.19, symbol Pb. (Dorland, 28th)

MSH99

Chemicals and Drugs (MeSH Category) [D]
 Inorganic Chemicals [D1]
 Elements [D1.268]

Metals, Heavy [D1.268.556]
 Lead [D1.268.556.435]
 Lead <2> (Lead measurement, quantitative)@lbpr [Laboratory Procedure]
 CPT99
 Pathology and Laboratory Tests
 Chemistry Pathology and Laboratory Tests
 Lead [83655]

1.27 Match Phrase: **man** Count: 275231 --- Example Seq_No: 1946

Man <3> (Homo sapiens)@humn,popg [Human | Population Group]
 SNM2
 Etiology Axis
 Fungi, Parasites, Insects and Animals
 Chordates
 Homo sapiens [E-4957]
 MAN <1> (Male)@orga [Organism Attribute]
 use in conjunction with a disease, disorder, dysfunction, body system, or function which is gender specific.
 Used for all-male populations when sex is pertinent to the focus of the study. For comparison of sexes use
 HUMAN SEX DIFFERENCES.
 SNM2
 Topography Axis
 General Body Topography; Integumentary, Hematopoietic and Lymphatic Systems
 General Body Topography
 Male [T-00XY0]
 man <2> (Men)@popg [Population Group]
 Human adult males as cultural, psychological, sociological, political, and economic entities.
 MSH99
 Persons (MeSH Category) [M]
 Persons [M1]
 Men [M1.390]

Third sense may be rare since it is generally associated with the plural *men*, not the singular *man*.

1.28 [155] Match Phrase: **mole** Count: 31599 --- Example Seq_No: 62659

Mole <2> (Benign melanocytic nevus of skin)@neop [Neoplastic Process]
 RCD98
 Clinical findings [XaBVJ]
 Disorders [X0003]
 Dermatological disorder [M...]
 Naevi, hamartomas and developmental anomalies [X50JN]
 Benign melanocytic naevus of skin [X78Uv]
 Mole <1> (Mole the mammal)@mamm [Mammal]
 Any of numerous burrowing mammals found in temperate regions and having minute eyes often covered with
 skin.
 MSH99
 Organisms (MeSH Category) [B]
 Vertebrates [B2]
 Mammals [B2.649]
 Insectivora [B2.649.473]
 Moles [B2.649.473.450]
 Mole <4> (Nevus, Pigmented)@neop [Neoplastic Process]
 A nevus containing melanin. The term is usually restricted to nevocytic nevi (round or oval collections of mel-
 anin-containing nevus cells occurring at the dermoepidermal junction of the skin or in the dermis proper) or
 moles, but may be applied to other pigmented nevi. (From Dorland, 27th ed)

MSH99
 Diseases (MeSH Category) [C]
 Neoplasms [C4]
 Neoplasms by Histologic Type [C4.557]
 Nevi and Melanomas [C4.557.665]
 Nevus [C4.557.665.560]
 Nevus, Pigmented [C4.557.665.560.615]

mol@qncq [Quantitative Concept]

RCD98
 Unit [X8001]
 Unit of amount of substance [X800o]
 SI unit of amount of substance [X800p]
 mol [X800q]

Consider suppressing third sense (which is a kind of sense one). Note that mol is an abbreviation of mole with third definition in Dorland's 27th edition: *that amount of a substance (in a system) that contains as many elementary entities (atoms, ions, molecules, or radicals) as there are carbon atoms in 12 grams of carbon-12 (12C), or that amount of a chemical compound whose mass in grams is equivalent to its formula mass (see gram-molecule, and see gram molecular weight, under weight. A mole is considered to be equal to 6.023 x 10²³ (Avogadro's number) elementary entities. Abbreviated mol.*

See 2000 ambiguity study.

1.29 [571] Match Phrase: **mosaic** Count: 5367 --- Example Seq_No: 157418

Mosaic <3> (Embryonic Mosaic)@comd [Cell or Molecular Dysfunction]

SNMI98
 MORPHOLOGY
 CELLULAR AND SUBCELLULAR ABNORMALITIES
 MOSAICISM
 Mosaicism, NOS [M-60100]

Mosaic <4>@inpr [Intellectual Product]

AOD95
 communication, information, and education [N]
 information technology [NJ]
 computer technology [NJ6]
 computer software [NJ6.4]
 information management software [NJ6.4.4]
 information access software [NJ6.4.4.2]
 Mosaic [NJ6.4.4.2.2U]

Mosaic <2> (Mosaicism <1>)@orga [Organism Attribute]

The occurrence in an individual of two or more cell populations of different chromosomal constitutions, derived from a single zygote.

MSH99
 Biological Sciences (MeSH Category) [G]
 Genetics [G5]
 Cytogenetics [G5.148]
 Mosaicism [G5.148.630]

Mosaic <1> (Spatial Mosaic)@spco [Spatial Concept]

RCD98
 Additional values [X78tJ]
 Descriptors [XM0Dh]
 Distributions [X7908]
 Mosaic [X78zL]

See 2000 ambiguity study.

1.30 [148] Match Phrase: **nutrition** Count: 32447 --- Example Seq_No: 21490

Nutrition <4> (Feeding and dietary regimes)@topp [Therapeutic or Preventive Procedure]
RCD98

Operations, procedures and interventions [Xa22Y]

Regimes and therapies [X71ZT]

Feeding and dietary regimes [Xa97T]

Nutrition@orga [Organism Attribute]

State of the body in relation to the consumption and utilization of nutrients.

Extent to which nutrients are available to meet metabolic needs

Nourishment of the body with balanced food in a manner that energy, maintenance, and growth processes occur.

SNM2

Function Axis

General Body Function and Dysfunction

General Body States, Conditions and Activities

Nutritional state [F-01690]

~~Nutrition <3> (Nutrition outcomes)@inpr [Intellectual Product]~~

~~Outcomes that describe an individual's nutritional patterns and status~~

~~NOC97~~

~~Physiologic Health [2]~~

~~Nutrition [K]~~

Nutrition <1> (Science of nutrition)@bmod,orgf [Biomedical Occupation or Discipline | Organism Function]

The science of food, the nutrients and other substances contained therein, their action, interaction, and balance in relation to health and disease.

MSH99

Biological Sciences (MeSH Category) [G]

Health Occupations [G2]

Nutrition [G2.513]

Consider collapsing second and third senses.

See 2000 ambiguity study.

1.31 Match Phrase: **pathology** Count: 101183 --- Example Seq_No: 1807

Pathology@bmod [Biomedical Occupation or Discipline]

A specialty concerned with the nature and cause of disease as expressed by changes in cellular or tissue structure and function caused by the disease process.

MSH99

Biological Sciences (MeSH Category) [G]

Health Occupations [G2]

Medicine [G2.403]

Specialties, Medical [G2.403.776]

Pathology [G2.403.776.600]

~~pathology <2> (pathological)@ften [Functional Concept]~~

~~Used for organ, tissue, or cell structure in disease states.~~

~~MSH99~~

~~anatomy & histology [Y2]~~

~~cytology [Y2.20]~~

~~pathology [Y2.20.10]~~

pathology <3>@patf [Pathologic Function]

CSP98

disorder /disease [0944-4756]

pathology [0944-7360]

Second sense is a MeSH subheading; ignore it.

1.32 [48] Match Phrase: **pressure** Count: 89543 --- Example Seq_No: 11042

PRESSURE <4> (Baresthesia)@ortf [Organ or Tissue Function]

SNM2

Function Axis

Function and Abnormal Function of the Nervous and Musculoskeletal Systems

Functions and Functional Disorders of the Nervous System

Sensory Functions and Disorders

Baresthesia [F-82590]

Pressure@ften [Functional Concept]

SNM2

Function Axis

General Body Function and Dysfunction

General Metabolic Functions and Activities

Pressure [F-04700]

Pressure <3> (Pressure - action)@topp [Therapeutic or Preventive Procedure]

RCD98

Additional values [X78tJ]

Activities, functions and processes [XaBfV]

Clinical action [XM0Zw]

Clinical actions P-Z [XM0It]

Pressure - action [X79wg]

Pressure <1> (Pressure- physical agent)@qncq [Quantitative Concept]

MSH99

Physical Sciences (MeSH Category) [H]

Physical Sciences [H1]

Physics [H1.671]

Pressure [H1.671.691]

See 2000 ambiguity study.

1.33 Match Phrase: **radiation** Count: 19020 --- Example Seq_No: 12772

Radiation <1> (Electromagnetic Energy)@npop [Natural Phenomenon or Process]

Emission or propagation of electromagnetic energy (waves/rays), or the waves/rays themselves; a stream of electromagnetic particles (electrons, neutrons, protons, alpha particles) or a mixture of these. The most common source is the sun.

MSH99

Physical Sciences (MeSH Category) [H]

Physical Sciences [H1]

Physics [H1.671]

Radiation [H1.671.768]

Radiation <2> (Radiation therapy)@topp [Therapeutic or Preventive Procedure]

The use of ionizing radiation to treat malignant neoplasms and other benign conditions. The most common forms of ionizing radiation used as therapy are x-rays, gamma rays, and electrons. A special form of radiotherapy, targeted radiotherapy, links a cytotoxic radionuclide to a molecule that targets the tumor. When this molecule is an antibody or other immunologic molecule, the technique is called RADIOIMMUNOTHERAPY.

Radiation therapy (also called radiotherapy) uses high-energy radiation from x-rays and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy) or from materials that produce radiation (radioisotopes) that are placed inside the body in the area where the cancer cells are found (internal radiation therapy, implant radiation, or brachytherapy). Systemic radiation therapy involves giving a radioactive substance, e.g., a radiolabeled monoclonal antibody, that circulates throughout the entire body.

use PHOTOTHERAPY, LASER THERAPY, or ULTRAVIOLET THERAPY for therapeutic radiation with visible, laser, or ultraviolet light, respectively.

MSH99

Analytical, Diagnostic and Therapeutic Techniques and Equipment (MeSH Category) [E]
 Therapeutics [E2]
 Radiotherapy [E2.810]

1.34 Match Phrase: **reduction** Count: 343047 --- Example Seq_No: 224

Reduction <2> (Reduction (chemical))@npop [Natural Phenomenon or Process]
 SNM2

Function Axis

General Body Function and Dysfunction

General Metabolic Functions and Activities

Reduction [F-04320]

Reduction <1> (Reduction - action)@hlca [Health Care Activity]

CD98

Additional values [X78tJ]

Special atomic mapping values [Xa1o6]

Surgical procedure atoms [XaBfw]

Surgical action [Xa1om]

Actions by primitive [Xa8HG]

Modification - action [Xa8HK]

Reduction - action [X79ws]

or

RCD98

Additional values [X78tJ]

Activities, functions and processes [XaBfV]

Clinical action [XM0Zw]

Clinical actions P-Z [XM0It]

Reduction - action [X79ws]

Second sense may require clarification and may not include the notion of *reduction of fracture*.

1.35 Match Phrase: **repair** Count: 153341 --- Example Seq_No: 3175

Repair <1> (Repair - action)@topp [Therapeutic or Preventive Procedure]

RCD98

Additional values [X78tJ]

Special atomic mapping values [Xa1o6]

Surgical procedure atoms [XaBfw]

Surgical action [Xa1om]

Actions by primitive [Xa8HG]

Modification - action [Xa8HK]

Structural modification [Xa9ks]

Repair - action [X79ww]

Repair, NOS (Surgical repair, NOS)@topp [Therapeutic or Preventive Procedure]

RCD98

Additional values [X78tJ]

Special atomic mapping values [Xa1o6]

Surgical procedure atoms [XaBfw]

Surgical action [Xa1om]

Actions by primitive [Xa8HG]

Modification - action [Xa8HK]

Structural modification [Xa9ks]

Repair - action [X79ww]

Surgical repair [X90RT]

Repair <2> (Wound Healing)@orgf [Organism Function]

Restoration of integrity to traumatized tissue.

MSH99

Biological Sciences (MeSH Category) [G]
 Biological Phenomena, Cell Phenomena, and Immunity [G4]
 Biological Phenomena [G4.185]
 Regeneration [G4.185.753]
 Wound Healing [G4.185.753.891]

First and second senses are related.

Ignore sense two.

1.36 Match Phrase: **resistance** Count: 193155 --- Example Seq_No: 15192

Resistance <2>@menp [Mental Process]
 Synonym: Resistance (Psychotherapeutic)
 resistance <1>@socb [Social Behavior]
 AOD95
 social sciences, economics, and law [L]
 social psychology [LA]
 type of relationship and interaction [LU]
 collaboration, competition, conflict, and outcome [LX]
 attack and defend [LX10]
 resistance [LX10.6]

1.37 Match Phrase: **scale** Count: 163169 --- Example Seq_No: 6878

Scale <1> (Integumentary scale)@bpoc [Body Part, Organ, or Organ Component]
 SNMI98
 TOPOGRAPHY
 INTEGUMENTARY SYSTEM
 SKIN AND SKIN APPENDAGES
 ANIMAL SKIN STRUCTURES AND APPENDAGES
 Scale [T-01764]
 Scale <2> (Intellectual scale)@inpr [Intellectual Product]
 RCD98
 Attribute [X75Mq]
 Rank [XC007]
 Scale [Xa0cf]
 Scale, NOS (Weight measurement scales)@mnob [Manufactured Object]
 SNMI98
 PHYSICAL AGENTS, FORCES, AND ACTIVITIES
 PHYSICAL AGENTS
 HOSPITAL, MEDICAL AND SURGICAL EQUIPMENT
 HOSPITAL FURNITURE AND AMBULATION DEVICES
 Scale, NOS [A-17300]

1.38 Match Phrase: **secretion** Count: 322391 --- Example Seq_No: 19258

Secretion <2> (Bodily secretions)@bdsu [Body Substance]
 Endogenous substances produced through the activity of intact cells of glands, tissues, or organs. They do not include hormones or enzymes.
 MSH99
 Anatomy (MeSH Category) [A]
 Fluids and Secretions [A12]
 Bodily Secretions [A12.200]
 secretion <1> (Process of secretion)@biof [Biologic Function]
 Used for the discharge across the cell membrane, into the intracellular space or ducts, of endogenous substances resulting from the activity of intact cells of glands, tissues, or organs.

MSH99

physiology [Y8]
secretion [Y8.60]

secretion <3>@biof [Biologic Function]

glandular production of a hormone or other substance which will perform a specialized function outside the gland.

AOD95

concepts in biomedical areas [E]
general life processes [EA]
biological transport and storage [EC]
biological transport [EC2]
secretion [EC2.12]

Senses two and three seem to be the same, and sense two is a MeSH subheading.

1.39 Match Phrase: **sensitivity** Count: 356771 --- Example Seq_No: 3223

Sensitivity <3> (Antimicrobial susceptibility)@lbtr [Laboratory or Test Result]

RCD98

Clinical findings [XaBVJ]
History and observations [X76sU]
Laboratory test observations [X76sW]
Microbiology observation [X76xj]
Antimicrobial susceptibility [X76yq]

Sensitivity <2> (Personality Sensitivity)@fndg,menp [Finding | Mental Process]

NOC97

Psychosocial Health [3]
Social Interaction [P]
Social Interaction Skills [1502]
Sensitivity [150204]

Sensitivity <1> (Statistical sensitivity)@qnco [Quantitative Concept]

1.40 Match Phrase: **sex** Count: 179105 --- Example Seq_No: 7346

Sex <1> (Coitus)@inbe,orgf [Individual Behavior | Organism Function]

Sexual intercourse.

MSH99

Psychiatry and Psychology (MeSH Category) [F]
Behavior and Behavior Mechanisms [F1]
Behavior [F1.145]
Sex Behavior [F1.145.792]
Coitus [F1.145.792.188]

Sex, NOS (Gender)@orga [Organism Attribute]

do not confuse with SEX BEHAVIOR.

RCD98

Clinical findings [XaBVJ]
History and observations [X76sU]
Gender [XC00J]

Sex <2>@orga [Organism Attribute]

The totality of characteristics of structures and functions differentiating the male from the female organism. SEX includes sexology, the study of the differences and interactions between the sexes. It does not include various sexual factors in epidemiology and statistics or the role of the sexes or differences in behavior, psychology, and sociology.

Conceptually broad array term referring to the structural, functional, or behavioral characteristics of males and females of a given species. Use a more specific term if possible. For comparisons of the sexes use HUMAN SEX DIFFERENCES or ANIMAL SEX DIFFERENCES.

MSH99
 Biological Sciences (MeSH Category) [G]
 Reproductive and Urinary Physiology [G8]
 Reproduction [G8.520]
 Sex [G8.520.900]

Senses two and three seem to be the same, but please review.

1.41 Match Phrase: **single** Count: 491479 --- Example Seq_No: 7046

Single <2> (Singular)@qnc [Quantitative Concept]
 RCD98
 Additional values [X78tJ]
 Descriptors [XM0Dh]
 Numerical descriptors [Xa0Pd]
 Single [X90gt]
 single <1> (Unmarried <2>)@popg [Population Group]
 AOD95
 demographic characteristics [T]
 marital status [TG]
 single [TG2]

No definitions.

1.42 Match Phrase: **strains** Count: 231615 --- Example Seq_No: 13467

Strains <2> (Microbiology subtype strains)@inpr [Intellectual Product]
 CD98
 Additional values [X78tJ]
 Ranked categories [XM0J7]
 Types [X90UB]
 Microbiology subtypes [Xa0Bn]
 Strains [Xa0CX]
 Strains <1> (Muscle strain)@inpo [Injury or Poisoning]
 ICD10
 Diseases of the musculoskeletal system and connective tissue
 Soft tissue disorders
 Disorders of muscles
 Other disorders of muscle
 Muscle strain [M62.6]

1.43 Match Phrase: **support** Count: 295751 --- Example Seq_No: 965

Support@soeb [Social Behavior]
 CD98
 Operations, procedures and interventions [Xa22Y]
 Regimes and therapies [X71ZT]
 Support [X71Fv]
 Support, NOS@medd [Medical Device]
 UMD99
 Technical Aids for the Disabled [TEC]
 Orthoses and Supports [TEC.530]
 Supports [TEC.530.200]

1.44 Match Phrase: **surgery** Count: 506651 --- Example Seq_No: 4961

Surgery <3>@topp [Therapeutic or Preventive Procedure]
 CSP98
 technology /technique [4000-0348]

surgery [2846-3981]

Surgery <1> (Surgery specialty)@bmod [Biomedical Occupation or Discipline]

A specialty in which manual or operative procedures are used in the treatment of disease, injuries, or deformities.

MSH99

Biological Sciences (MeSH Category) [G]

Health Occupations [G2]

Medicine [G2.403]

Specialties, Surgical [G2.403.810]

Surgery [G2.403.810.762]

~~surgery <2>@topp [Therapeutic or Preventive Procedure]~~

Used for operative procedures on organs, regions, or tissues in the treatment of diseases, including tissue section by lasers. It excludes transplantation, for which "transplantation" is used.

MSH99

therapy [Y11]

surgery [Y11.70]

Third sense is a MeSH subheading; ignore it.

1.45 Match Phrase: **transient** Count: 117271 --- Example Seq_No: 16701

Transient <2> (Transient Population Group)@popg [Population Group]

Transient <1> (Transitory)@tmco [Temporal Concept]

RCD98

Additional values [X78tJ]

Descriptors [XM0Dh]

Time patterns [XM0Dl]

Courses [Xa48J]

Acute [X906m]

Transient [X78v6]

1.46 Match Phrase: **transport** Count: 169839 --- Example Seq_No: 2399

Transport <1> (Biological Transport)@celf [Cell Function]

The movement of materials (including biochemical substances and drugs) across cell membranes and epithelial layers, usually by passive DIFFUSION.

MSH99

Biological Sciences (MeSH Category) [G]

Biochemical Phenomena, Metabolism, and Nutrition [G6]

Metabolism [G6.535]

Biological Transport [G6.535.166]

Transport <2> (Patient Transport)@hlca [Health Care Activity]

Moving a patient from one location to another

NIC96

PHYSIOLOGICAL: BASIC (NIC Domain) [1]

Immobility Management [C]

Transport [0960]

1.47 Match Phrase: **ultrasound** Count: 147917 --- Example Seq_No: 1947

~~ultrasound <1> (Ultrasonic)@ften [Functional Concept]~~

Ultrasound <3> (Ultrasonic Shockwave)@npop [Natural Phenomenon or Process]

That part of the science of acoustics dealing with the frequency range beyond the upper limit of perception by the human ear (beyond 20,000 hertz per second), but usually restricted to frequencies above 500,000 hertz per second. Ultrasonic radiation is injurious to tissues because of its thermal effects when absorbed by living matter, but in controlled doses it is used therapeutically to selectively break down tissues, as in treatment of arthri-

tis and lesions of the nervous system, and also as a diagnostic aid by visually displaying echoes received from irradiated tissues, as in echocardiography and echoencephalography. (Dorland, 28th ed)
Sound waves with frequencies above the range of human hearing.

MSH99

Physical Sciences (MeSH Category) [H]

Physical Sciences [H1]

Physics [H1.671]

Acoustics [H1.671.31]

Ultrasonics [H1.671.31.849]

Ultrasound <2> (Ultrasonography)@diap [Diagnostic Procedure]

high frequency sound waves used to identify and examine internal organs and structures without the invasive hazards of X rays, dyes, or fluoroscopy.

The visualization of deep structures of the body by recording the reflections of echoes of pulses of ultrasonic waves directed into the tissues. Use of ultrasound for imaging or diagnostic purposes employs frequencies ranging from 1.6 to 10 megahertz.

The use of sound waves to visualize the inside of the body.

SNM2

Procedure Axis

Radiography, Radiation Therapy, Nuclear Medicine and Ultrasonic Procedures

Diagnostic Ultrasound Procedures

Echography [P-X910]

First sense is not well-defined; ignore it

1.48 Match Phrase: **variation** Count: 157539 --- Example Seq_No: 21

Variation <2> (Variant)@qlco [Qualitative Concept]

RCD98

Additional values [X78tJ]

Findings values [X80uE]

Normality findings [Xa0DB]

Variant [X90M3]

Variation <1> (Variation (Genetics))@npop [Natural Phenomenon or Process]

The phenotypic differences among individuals in a population.

MSH99

Biological Sciences (MeSH Category) [G]

Genetics [G5]

Genetics, Population [G5.414]

Variation (Genetics) [G5.414.918]

1.49 [67] Match Phrase: **weight** Count: 66483 --- Example Seq_No: 3332

Weight <2> (Body Weight)@orga,qnco [Organism Attribute | Quantitative Concept]

MSH99

Analytical, Diagnostic and Therapeutic Techniques and Equipment (MeSH Category) [E]

Diagnosis [E1]

Diagnostic Techniques and Procedures [E1.370]

Physical Examination [E1.370.600]

Body Constitution [E1.370.600.110]

Body Weight [E1.370.600.110.120]

Weight@qnco [Quantitative Concept]

RCD98

Additional values [X78tJ]

Descriptors [XM0Dh]

Dimensions [X7917]

Weights [XM0Dk]

See ambiguity study.

1.50 Match Phrase: **white** Count: 135923 --- Example Seq_No: 9803

~~WHITE <1> (Caucasians)@popg [Population Group]~~

An ethnic group of the Caucasoid Race.

Populations of European, North African, or Southwest Asian descent. May also be used to refer to population groups in these areas when cultural or ethnic comparisons are studied. Use CAUCASIANS to access references from 73-81.

MSH99

Anthropology, Education, Sociology and Social Phenomena (MeSH Category) [I]

Social Sciences [II]

Anthropology [I1.76]

Anthropology, Cultural [I1.76.201]

Culture [I1.76.201.450]

Ethnic Groups [I1.76.201.450.416]

Whites [I1.76.201.450.416.650]

White <3> (Caucasoid Race)@popg [Population Group]

A major racial group distinguished by classification according to physical features. This group, also called Europoid, centers around the Mediterranean Sea but includes central and northern Europe. They are indigenous also to northern Africa, southwestern Asia, and India. (Winick: Dictionary of Anthropology, 1972; American Heritage Dictionary, 2d College ed)

MSH99

Anthropology, Education, Sociology and Social Phenomena (MeSH Category) [I]

Social Sciences [II]

Anthropology [I1.76]

Anthropology, Physical [I1.76.368]

Racial Stocks [I1.76.368.763]

Caucasoid Race [I1.76.368.763.284]

White <2> (White color)@qlco [Qualitative Concept]

SNMI98

MORPHOLOGY

GENERAL MORPHOLOGIC TERMS

COLORS

White color [M-04170]

First and second senses are the same; ignore one of them.