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Depth Colon Classification Schedule for Anaesthesiology: Construction and Test Application

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Guidelines, principles and systematic approach outlined in the 7th edition of Colon Classification scheme were adopted for the construction of a depth classification schedule for anaesthesiology as applied to various surgical and obstetrical procedures carried out on the human body. The procedural steps in designing the schedule are discussed with supporting tables and examples compiled from the schedule of isolates. The workability of the schedule was tested by facet analysing, classifying and arranging a few abstracts pertaining to anaesthesiology guided by the principles of facet-analysis and the analyticosynthetic procedure for classifying. An alphabetical index to the schedule of isolates and a cyclically permuted index to the test-classification have been prepared; the methodology for the same is described as well.

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1. Background

The Indian approach to analytico-synthetic classification is the Colon Classification. The present version is based upon the concept of free facets with emphasis on depth classification. Its theory provides models, tools, techniques, principles, postulates and enough flexibility to the classifier for analysing the subject content into their elemental structures and synthesising them into assemblages in a manner appropriate to meet specific demands of the users of information. With an adequate knowledge of the theory of classification and the subject needed to be classified, an information specialist or a librarian is in a position to classify the subject to any chosen depth and level at any time depending upon the need. The analytico-synthetic, freely-faceted, depth Colon Classification Schedule for a anaesthesiology is a result of one such endeavour realized into practice and at the same time a test of theoretical implications and workability of the 7th edition of the Colon Classification scheme.

2. Procedure adopted for the construction of the schedule

The schedule was worked out within the framework and guidelines offered by the scheme. The different steps taken for the preparation of the schedule are explained in the follwing subsections.

2.1 Study of anaesthesiology

A depth schedule, as has been mentioned earlier, is user-oriented and need based. The construction requires the understanding of the structure of the subject. Initial understanding of anaesthesiology was undertaken by a study of the literature available in books, encyclopaedias, primary and secondary periodicals and later moving progressively to more complex material. The subject was studied in terms of its definition, scope, landmark classification, development and trends in research and education, application, information transfer process ets.

2.2 Collection of terms

Anaesthesiology, in a span of a decade and a half has risen from a technique into a legitimate branch of medicine. No other area of medicine deliberately depresses the brain and the bodily systems as does anaesthesia with the tacit expectation of returning them to normalcy in minute time without incident or complication. It is interdisciplinary in crossing the lines between basic science, pharmacology and clinical medicine.

The slant of the schedule decides the collection, incorporation and arrangement of the terms in the schedule and as this schedule was planned to cover the subject needs of practicing anaesthesiologists and technicians, the stress right from the beginning was towards the collection of terms pertaining to practical application of anaesthesiology to various surgical and obstetrical procedures carried out on the human body. The guidelines for collecting the terms for the above mentioned objective was provided by the definition of present day anaesthesiology by the American Board of Anaesthesiology:

"Far from providing sleep in the operating room, today's anaesthesiology is defined as a practice of medicine dealing with but not limited to:

a) the management of procedures for rendering a patient insensible to pain and emotional stress during surgical, obstetrical and certain medical procedures;
b) the support of life functions under the stress of anaesthetic and surgical manipulations;
c) the clinical management of the unconscious patient whatever the cause;
d) the management of problems in pain relief;
e) the management of problems in cardiac and respiratory resuscitation;
f) the application of specific methods of respiratory therapy and
g) the clinical management of various fluids, electrolytes and metabolic disturbances."

It can be seen from the above, anaesthesiology finds its maximum application in operational procedures and in order to give 'Safe-anaesthesia', an anaesthesiologist has to have a detailed understanding of (i) various pathological conditions which not only governs the type of surgery to be performed but also the type of anaesthetic and the technique by which it has to be administered; (ii) pharmacology and toxicology of anaesthetics and related drugs; (iii) anatomy of those organs which bear the major portion of anaesthetic action; (iv) biochemical and physiological functioning of body cells before, during and after the administration of anaesthetics and furthermore (v) the use of monitoring equipment and mea-

sures for accumulating data on vital body functions. Hence, Pathology, Pharmacology, Toxicology, Anatomy, Biochemistry and Physiology are related subjects, Electronics and Instrumentation are tool subjects and Surgery, Obstetrics and Dentistry are application subjects to Anaesthesiology.

Standard and individual terms pertaining to the above points were collected from various documentary sources ranging from encyclopaedias, dictionaries, glossaries, thesauri etc. to the latest issues of primary, secondary and tertiary periodical publications. After checking their relevance to the context they were presented in the schedule of isolates as manifestations of either fundamental categories and/or as their speciators. For example, anaesthesia techniques and drugs are manifestations of the (P) category; surgery is (Sp1) and anatomy (Sp2) to the (P) category; physiological and biochemical changes in body organs are manifestations of the (M P) category and monitoring and therapeutic equipment and instruments are Sp1 to the (E) category. The stress on 'Induced anaesthesia' automatically eliminates the inclusion of 'Anaesthesia as a pathological complication'.

The culling out of individual terms from articles was facilitated by facet analysis of their abstracts.

2.3 Facet analysis of abstracts

The subject contents of the abstracts were facet analysed into subject strings according to the postulates of S.R. Ranganathan's facet analysis which expounds the theory of fundamental categories of Personality, Matter (Material and Property), Energy, Space and Time and their respective Speciators. The analysis of each article was written on a separate slip along with its bibliographical information.

2.4 Recording of term profile

The significant terms obtained from various sources were profiled on a 3″ × 7″ slip of paper. For each term, the following information was collected and recorded:

1. Serial number
2. Reference
3. Term
4. Context
5. Definition
6. Source of definition
7. Role
8. Broader terms
9. Narrower terms
10. Related terms
11. Synonyms

2.5 Grouping and arrangement

The term profiles collected were examined and checked to find their relevance to the context. The relevant terms were then first grouped by facets and speciators and thereafter sorting was done by the category of manifestations. It was seen that the manifestations of terms were limited to the fundamental categories of Personality (P), Matter Property (M P) and Energy (E) and to their respective speciator(s). The schedule of isolates was set in the above mentioned three parts – each part comprising a schedule of isolates of a particular category and its speciator(s). (P) and (E) categories had two level speciators which were designated as Speciator of order 1 (Sp1) and Speciator of order 2 (Sp2). (M P) had only one level speciator.

2.51 The Personality category

Anaesthesiology is an interdisciplinary subject and as anaesthesia, in a sense, is simply an application of the knowledge of pharmacological actions of drugs to known physiology and pathology, the manifestations of the (P) category are the various types of

- procedural techniques, both chemical and physical, of general and local anaesthesia and narcotic analgesia for rendering a patient insensible to pain for operational/therapeutic procedures. Examples are: Inhalation/Intravenous and Rectal General anaesthesia techniques, Block techniques, Acupuncture etc.;
- techniques of ancillary anaesthesia adjuncts like 'induced hypothermia' for supporting anaesthetic as well as surgical manipulations and
- drugs which broadly fall under the following four categories depending upon the purpose behind their administration:

(a) Prophylactic pre-anaesthetic medicants such as 1) Atropine, Epinephrine, Antiemetics etc. for preplanned controlling of complications that could arise as an untoward sequelae to anaesthetic administration; 2) Transquilizers for the long established aim of relieving anxiety before anaesthetic induction; 3) Sedatives and narcotic analgesics for diminishing overall anaesthetic requirements and 4) Muscle relaxants for decreasing muscular tone and inducing relaxation;

(b) General and local anaesthetics and strong narcotic analgesics for producing anaesthesia and analgesia and

(c) Post-operative medicants like stimulants and diuretics for treating complications due to anaesthetic mismanagement.

It might be argued that techniques and drugs belong two different classification categories. Nevertheless, they are here put together in the (P) category because their isolates were found to form the core of the subject either singularly or in association with other core terms on the same or on different level(s) within the same or in different round(s). There is scope for further addition of Quasi Isolates (Q Is) in the (P) category and if need be, anaesthetic equipments and instruments which are level 1 speciators to the (E) category can become a third (Q I). Some of the major isolates have multiple roles because of the multidisciplinary nature of the subject. As the present scheme is freely-faceted and flexible, their juxtaposition and reversal of roles could be represented in the schedule of isolates.

2.52 The Matter Property category

Terms manifesting as (MP) were basically those indicating a deviation in the physiological and biochemical functioning of a particular organ-system or an organ. Even anaesthesia and narcotic analgesia were deliberate depressions brought upon the normal biochemical functioning of the nervous system and hence a change. Apart from such desired depressions, the side effects, toxic effects and characteristic effects of drugs – both anaesthetics as well as those given in relation to anaesthesia pre-anaesthetically, during or post-operatively were found to form the (MP) category collectively.

2.53 The Energy category

Energy and action go hand in hand and terms manifesting as (E) were those denoting action – general as well as specific. Pre-anaesthetic caring and preparation of the patient, processes of administration of anaesthesia techniques, management and maintenance of anaesthesia, support of life functions under the stress of anaesthesia and surgical procedures, measuring and monitoring of data, management of problems in cardiac and respiratory resuscitation, application of specific methods of cardiac and respiratory therapy during and after surgery etc. were all deemed to form the (E) category.

2.54 Speciators to (P), (M P) and (E) categories

The Quasi Isolates of speciators to (P), (MP) and (E) categories as listed under section 2.71 broadly indicate the terms that went to speciate the isolates in their respective fundamental categories. It is worth noting here that the (Q Is) of drugs – apart from being a major (Q I) in the (P) category – also speciate the (Q Is) of specific actions in the (E) category. Similarly, the isolates of complication in the (MP) category speciate at order one the isolates of the (E) category. The schedule has been closely-linked with the representation of many such multi-role isolates at various points in the schedule.

The level 2 speciators of a particular category always speciate the level 1 speciators of the category. Furthermore, the speciators of fundamental categories as well as the isolates in the fundamental categories – apart from their normal functions – can speciate among themselves; the direction of speciation being from lower to higher ordinal value.

2.6 Formation of arrays and chains

The terms grouped under different categories and speciators were arranged logically in arrays and chains by applying different characteristics in succession. Logic and sequence of application of the characteristics to the isolates was guided mainly by the Principles of Wall-Picture, Cow-Calf, Helpful Sequence and Consistency. An outstanding attempt was made in mentioning in the schedule of isolates the characteristics, principles, devices and mnemonics that went into the formation of different arrays and chains and their notations. Invariably, most of the anaesthesia techniques were named after the parts of the body they were administered to. For example – Nasal intubation, Mask anaesthesia, Intravenous anaesthesia, Cranial nerve block etc. Hence the isolates of anaesthesia techniques in the (P) category were arranged, conforming to the Principle of Consistency, according to the sequence of the (P) isolates of 'parts of the body' as enumerated in the basic schedule of 'L Medicine'. The isolates of drugs in the (P) category were similarly arranged according to the parts of the body they acted upon or effected. The list of (Q Is) in section 2.71 highlights this aspect. It was seen that many drugs effected various organ systems or organs simultaneously and to list all such multi-action drugs under each organ system and organ that they effected would have increased the bulk of the schedule. As these drugs changed the modality of an organ system/organ by either blocking or stimulating the release or action of neurohormones produced by innervating nerve endings, they were centrally enumerated under the (Q I) "Drugs effecting Nervous System". But a provision to represent such multi-action drugs under each of the organ system/organ that they effected was made by an intra-schedule cross-reference note.

For example, Picrotoxin is mainly an analeptic given post-operatively for its dual beneficial action in stimulating the central nervous system as well as reverting respiratory collapse, a condition arising especially as a result of anaesthesia mismanagement. As per above, Picrotoxin was listed under central nervous system-stimulants, but provision for representing Picrotoxin under 'Respiratory stimulant – Analeptic' under the (Q I) 'Drugs effecting Respiratory system' was also made possible with the help of a note which states that specific analeptics could be represented by subdividing it just as the subdivision of analeptics under 'Drugs effecting central nervous system – Stimulants'. Table 1 explains this comprehensively.

This is also an example of Systematic Mnemonics which is discussed in the next section. As mentioned earlier, the isolates of the (M P) category were those of changes induced upon the normal physiological and biochemical functioning of different organs in the body and the arrangement of (Q Is) within the (MP) category, again conforming to the principle of consistency, ran parallel to the arrangement of (Q Is) of drugs effecting various organ systems as enumerated in the (P) schedule. This is very much evident in Table 3. The principles of "Wall Pictur" and "Helpful Sequence" aided in the formation of arrays and chains of (E) isolates and likewise the speciators of each of the three categories arranged among themselves on the basis of semantic likeness and conceptual dependance.

2.7 Allocation of notation

The schedule of Basic subjects (B S) in the 7th edition of the depth version of the Colon Classification gave 'Anaesthesiology' the notation 'LY7' thus making it a distilled basic subject of 'L Medicine'. Keeping in view the Canons of Notation and Mnemonics, the notation allocation for isolates was done with a hospitable base capable of accomodating all the terms decided in the verbal plane and having scope for future intrapolation and extrapolation of isolates at all levels and points. For ease in synthesising individual notations, each isolate number (I N) in the schedule of isolates was preceded by its indicator digit, which are as follows:

, (comma for (P)
; (semi-colon) for (MP)
: (colon) for (E)
– (single hyphen) for (Sp1)
= (double hyphen) for (Sp2)

The ultimate synthesised notational expression of any deeply analysed subject string is bound to be co-extensive, complex and lengthy, which is an in-built feature to be taken with a pinch of salt. As stated earlier depth of analysis usually depends upon the need and likewise also its notational expression varies in length. Sometimes the

Table 1. Intra-Schedule cross-reference

,D4	Drugs used for their effect on the Respiratory system	,D732	Central nervous system stimulant
	(By type) *(By effect inducted)*		*(By type)*
	(By Systematic Mnemonics)	,D7234	Mood stimulant
		,D7235	Psychomotor stimulant/Anti-depressant
,D447	Bronchial dilators		
,D453	Respiratory stimulants	,D7236	Analeptic
	(By type) *(By nature of action)*		*(By alphabetical arrangement)* *(By Alphabetical Device)*
	(Illustrative)		*(Illustrative)*
	Analeptic	,D7236LO	Lobeline
		,D7326N	Nallaxone
	for specific analeptics add to ,"D453" by direct retroactive synthesis the notation following ",D723" in the schedule of "P" isolates of ",D7236–Analeptics" as enumerated under the quasi-isolate of "Drugs effecting Central nervous systemin "LY7 Anaesthesiology"	,D7236NA+H	Nalorphine hydrochloride
		,D7236P	Picrotoxin
	(Illustrative)		
	(By alphabetical arrangement)		
,D4536NA+H	Nalorphine hydrochloride		
,D4536P	Picrotoxin		

length of an otherwise long synthesised notational expression can be controlled beforehand by careful telescoping of arrays. In this case, as an experimental step, telescoping was deliberately avoided to gauge the expressivity of the isolate idea at the notational plane and the length of the (I N) which each isolate assumed in the absence of telescoping. Mnemonics was extensively used. Systematic Mnemonics was applied for inter and intra-schedule cross referencing which made the schedule comprehensive and consistent. An example of inter-schedule cross reference is given below which has been taken from the schedule of Sp2 to (P) isolates.

Table 2. Inter-schedule cross-reference

=O*P	*(By parts of the body upon which surgery is performed)*
	for specific organ systems and parts of the body add to "=OP" by direct retroactive synthesis the notation of 'P' isolates of "parts of the body" as enumerated in the basic schedule of "L Medicine"
	(Illustrative)
=OP167	Hand

Similarly, the notation of (Q Is) in (P) and (MP) categories and those of measuring, monitoring and therapeutic equipment in the Sp1 to (E) category were derived by Systematic Mnemonics as they are interdependent and correlated. The similarities in their notation is shown in Table 3.

Seminal mnemonics was used in a few places. Number '4' semantically denotes 'change' and the quasi-isolate of 'Change from the normal' in the schedule of (M P) isolates also bore the same number. Similarly, numbers '5' and '6' semantically represent 'prevention' and 'treatment' respectively, and these isolates in the schedule of (E) isolates had numbers ending with '5' and '6' respectively. For example:

:c5 :Control
:k5 :Prevention
:k6 :Treatment

Whereever isolates semantically meant depression, decrease or suppression they bore either number 1 or 2 at the end of their respective (I N). But these numbers were not restricted to the above isolates alone. Below few examples are given:

(P) category	*Notation*
Cortical depressant	,D721
Spinal cord depressant	,D731
Pain fibre depressant	,D751
Adrenergic blocking drug	,D75A91
Cholinergic antagonist drug	,D75C91
Preganglionic anticholinergic drug	,D75C911
Sp1 to (M P) category	*Notation*
Decrease	−Os1
Depression	−zOr1
Supression	−zOr2

Likewise number '3' denoted isolates semantically meaning stimulation and increase, but was not restricted to them alone.

(P) category	*Notation*
Respiratory stimulant	,D453
Central nervous system stimulant	,D723
Adrenergic drug	,D75A3
Cholinergic drug	,D75C3

Alphabetical mnemonics was applied in a couple of places like

Excitement (M P)	;4721e
Excitation Sp1 to (M P)	−zOue

* Erroneously in type setting an O was used instead of a 0 (Zero). Please, read 0 in all the cases occurring.

Table 3.

(QIs) IN(P) CATEGORY		*(QIs)* IN *(MP)* CATEGORY		*(QI)* IN Sp I TO *(E)* CATEGORY	
(By technique)	,A	*(By physiological & biochemical*		*(By measuring & monitoring equip-*	
Anaesthesia technique	,A7	*changes)*	;4	*ment)*	-Og
(By drug)	,D	-in Temperature	;4v	-Temperature measuring instrument	-Ogv
Drugs used for their effect on		in Tissue	;412		
-Eye	,D185	-in Eye	;4185	-Heart rate analysis equipment	-Og32
-Digestive system	,D2	-in Digestive system	;42		
-Circulatory system	,D3	-in Circulatory system	;43	-Respiratory rate measuring	
-Respiratory system	,D4	-in Respiratory system	;44	equipment	-Og45
-Urino-genital system	,D5	-in Urino-genitalsystem	;45	-Cerebral activity measurement	
-Nervous system	,D7	-in Nervous system	;47	equipment	-Og721
				(By therapeutic equipment)	-Op
				-Artificial alveolar ventillation	
				gas machine	-Op451

Scheduled mnemonics was also used to provide the notation for (E) isolates from the schedule of common energy isolates.

Among the devices, only the alphabetical device was used to provide mixed notation to individual drugs in the (P) category and instruments in the Sp1 to (E) category. For example

(P) category	
,D7234	Moodstimulants
(By alphabetical arrangement)	
(By alphabetical device)	
(Illustrative)	
,D7234A	Amphetamine
,D7234C	Caffiene
,D7234E	Ethamivan
,D7234M	Methylphenidate
,D7234T	Theophylline
Spl to (E) category	
–Og457	Gas mixture analyser
	(By Type)
	(By principle of later-in-time of invention)
	(By alphabetical device)
	(Illustrative)
–Og457N+A+A	Narkotest, anaesthetic gas mixture
–Og457M+S	Mass spectrometer
–Og457U+H+A	Ultraviolet halothane absorber

2.71 Allocation of notation to QIs

The following list of Quasi-Isolates and their notation broadly indicate the general pattern of their arrangement. A keen study will reveal all the previously mentioned principles that were applied for the derivation of the same.

2.8 The index to the schedule

An alphabetaical index to the schedule has been prepared with each entry giving the term, its context if any, its role(s) in the schedule of isolates and respective isolate number(s). 'See' and 'See also' cross references are given. A sample page of the index to the schedule of isolates is given in Appendix 1 illustrating the manner in which the index runs.

LIST OF (QIs)

(QIs)	NOTATION
Schedule of (P) isolates	
(By Technique)	,A
-Anaesthesia technique	,A7
-General anaesthesia	,A72
-Local anaesthesia technique	,A75
-Ancillary anaesthesia adjunct technique	,AP
(By drug)	,D
-Drugs used locally for their effect on the eye	,D185
-Drugs used locally for their effect on the digestive system	,D2
-Drugs used locally for their effect on the cirulatory system	,D3
-Drugs used locally for their effect on the respiratory system	,D4
-Drugs used locally for their effect on the urino-genital system	,D5
-Drugs used locally for their effect on the nervous system	,D7
Schedule of Sp 1 to (P) Isolates	
By Sex of the Patient	-OA
By St(age) of the Patient	-OB
By Status of the Patient	-OC
By Surgery	-OL
By Female medicine	-OM5
By Regulation of flow	-ON
By Depth of hypothermia	-OP
By Route of administration	-OR
By Dosage	-OS
By Induction time	-OT
By Time of administration of medicament	-OV
By Type of anaesthetic technique	-OZ
Schedule of Sp 2 to (P) isolates	
By Parts of the body upon which surgery is performed	=OP
Schedule of (MP) Isolates	
(By physiological and biochemical changes)	;4
-Temperature	;4v
-Tissue	;412
-Eye	;4185
-Disgestive system	;42
-Circulatory system	;43
-Respiratory system	;44
-Urino-genital system	;45
-Nervous system	;47

LIST OF (QIs)

(QIs)	NOTATION
Schedule of Sp 1 to (MP) Isolates	
By Percentage of occurance	-Oa
By Quality of effect/action	-Ob
By Nature of action	-Oc
By Time of occurance of effect	-Oe
By Condition	-Oh
By Cause of origin of complication	-Ok
By Region of origin of complication	-Ol
By Type of effect	-On
By Time interval/Period of occurance	-Op
By Time duration of effect	-Or
By Level	-ZOa
By Rate of activity	-ZOd
By Depth	-ZOh
By Time taken for onset of action	-ZOk
Schedule of (E) Isolates	
By General action	:aa
By Action on Patient	:aA
By Method of generation of action	:aD
Schedule of Sp 1 to (E) Isolates	
By Type of study	-Oar
By Complication	-Oa4
By Drug	-OaD
By Drug administration equipment	-Ob
By Measuring equipment and Monitoring equipment	-Og
By Therapeutic equipment	-Op
By Method of administration of drug	-Oqa
By Route of administration	-Ora
Schedule of Sp 2 to (E) Isolates	
By Aids to study	=Oar
By Speciators to complication	=Oa4
By Speciators to drugs	=OaD
By Approach of needle	=Ob82
By Type of needle	=Oc82

2.9 Test classification

To test the workability of the schedule the subject content of twenty eight abstracts pertaining to anaesthesiology were analysed according to the principle of facet analysis and classified according to the analytico-synthetic procedure for classifying. Slight modifications were made in the schedule on the basis of revelations therefrom and the abstracts reclassified according to the modified scheme. See sample page in Appendix 3.

2.91 Procedure for classifying

The following steps were applied in succession for classifying the subject content of the abstracts:

STEPS	*DETAILS*	*EXAMPLE*
0	Identifying the Raw title as found in the document	Epidural anagesia with morphine; a Preliminary study.
1	Identifying the expressive subject of the document	Anaesthesiology. Study of the good quality of local anaesthesia produced by Morphine sulfate following administration by Epidural Anaesthesia technique for the treatment of either of ischaemic, traumatic or post-operative pain.
2	Identifying substantive terms in the title.	Anaesthesiology. Study. Good Quality. Local anaesthesia. Morphine Sulfate. Epidural anaesthesia technique. Treatment. Pain. Ischaemic. Traumatic. Postoperative.
3	Identifying roles of the substantive terms in the context of subject under consideration viz. *(B S), (P), (M P)* and *(E)*. Levels and Rounds are determined by the Wall Picture Principle. Phase relations, if any, between the isoletes are also identified.	Anaesthesiology *(B S)* Epidural anaesthesia *(Sp1 to MP)* Local anaesthasia *(M P)* Morphine sulfate *(2P)* Epidural anaesthesia technique *(1P)* Treatment *(2E)* Pain *(Sp1 to 2E)* Ischaemic *(Sp2 to 2E)* Traumatic *(Sp2 to 2E)* Post-operative *(Sp2 to 2E)*
4	Rearranging ideas according to the sequence of *(BS), (P), (MP)* and *((E)*. Speciators and Qualifiers are arranged with the respective facet categories. Similarly qualifiers of order 2 with the respective qualifiers of order 1.	Anaesthesiology *(B S)* Epidural anaesthesia technique *(1P)* Morphine sulfate *(2P)* Local anaesthesia *(2M P)* Good quality *(Sp1 to 2M P)* Treatment *(2E)* Pain (Sp1 to 2E) Ischaemic *(Sp2 to 2E)* Traumatic *(Sp2 to 2E)* Post-operative *(Sp2 to 2E)* Study *(3E)*
5	Substantive terms may be checked to have the appropriate standard terms used in the schedule.	No change in the above-mentioned terms
6	Terms are represented by respective numbers given in the Schedule of Isolates and Schedule of Phase Relations	LY7*(B S)*, A751733*(1P)*, ,D7216x6M1M +S*(2P)* :4751*(2M P)* -Ob21*(Sp1 to M P)* :k6*(2E)* -Oa47p*(Sp1 to 2E)* =Oa4kd*(Sp2 to 2E)* =Oa4kg*(Sp2 to 2E)* =Oa4e5*(Sp2to 2E)* :aaR*(3E)*
7	The class number may be formed by dropping roles and notation	LY7,A751733,D7216x 6M1M+S;4751- Ob21:k6-Da47p=Oa4kd= Oa4kg=Oa4e5:aaR

2.92 Arrangement of classified abstracts

Abstracts were arranged in increasing ordinal value of their notation. In order to organise the abstracts, subheadings comprising the main class number and the subject heading were culled out from the schedule of (P) isolates and interpolated.

Each entry, step by step, provided information regarding

- title, author(s), and within parenthesis the locus of the periodical article. When an abstract was taken from the abstracting periodical Excerpta Medica

(EM), the locus of the abstract/periodical article in the abstracting periodical was given in square brackets,
- the sequence of arrangement of standard terms according to step 5 of the procedure for classifying,
- the representation of the terms by their respective notation as given in the schedule (step 6), and
- the synthesised class number according to step 7.

Whenever two terms belonging to the (P) category surfaced after facet analysis, and added entry for the second term under its main class number was made. The added entry was cross referred in the main entry at the end and likewise the added entry. For ease in identification, the serial number of each of the added entries bore an arsterisk and the term for which the added entry was made was underlined in steps 5, 6 and 7 in that entry.

2.93 Index to test classification

An alphabetical organised index to the 'sought' subject terms was prepared by cyclic permutation. The serial numbers of the classified abstract acted as the index number. The permuted term was mentioned in bold letters and its immediate context was provided by the last term in that entry. In cases where a single permuted term could link more than one entry, all such sought entries were listed under that term. Similarly a non-permuted term, wherever possible, linked more than one entry to the main permuted term. This feature is illustrated in Appendix 2. Hyphenated terms splitted due to permutation and the nonpermutated parat retained the hyphen either anteriorly or posteriorly depending upon the part that was permuted. When a more popular term was preferred over a less popular synonymous term (both present in the entries) for permutation, UF (Used For) was inserted between the preferred and the non-preferred term, e.g. INFANT (UF Paediatric). At certain points in the index a much sought after broad term was inserted in bold letters with dotted underline from the schedule of (P) isolates in order to correlate under one heading the various semantically similar but scattered permuted terms, e.g. 'ANAESTHESIA'. This coordination aids easy searching and retrieval of terms.

3. Conclusion

The schedule resulting from the depth classification construction can be regarded as a model prepared on the basis of the guidelines and flexibility provided by the Colon Classification itself. The result justifies the means. The work is comprehensive as far as coverage is concerned with hospitability for future additions of isolates. As the subject-field is an interdisciplinary one, the subject analysis of anaesthesiology into different facets, the sorting of terms, the allocation of roles, etc., with respect to the context at hand had been complicated initially. Apart from the isolates of procedural techniques of anaesthesia, anaesthetic, anaesthesia and its process of administration, the schedule also consisted, as is evident from sections 2.51, 2.52 and 2.53, of isolates pertaining to anaesthesia adjuncts, drugs other than anaesthetics, surgery, physiological and biochemical changes in various organ systems and organs, general and specific actions and of instruments and equipment. This multidisciplinary coverage of isolates makes the schedule all the more exhaustive and an important link to various other co-related distilled basic subject schedules of 'L Medicine'. The schedule was planned and prepared in a manner that it could easily blend with adjacent schedules. With the help of this depth classification schedule, detailed indexing, abstracting and retrieval of both macro and micro documents are possible. With such guidelines, it is also possible to construct schedules of other subjects in a similar way considering variation of subject coverage as well as notational expressivity.

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Appendix 1

Sample page of Index to the Schedule of Isolates

Bad quality (Sp1 to MP) –Ob42
Bag and mask ventillation gas machine (Sp1 to E) –Op4512B+M
Balanced anaesthesia technique
  See Mixed anaesthesia technique
Ballon tip catheter (Sp1 to E) –Og372C+B
Barbital sodium (P), D7215B+S
Barbiturate (P) ,D7215B
Barnet automatically operated ventillation gas machine (Sp1 to E) –Op4514B
Basal
  anaesthesia technique (Sp1 to P) –O25
  level (Sp1 to M P) –zOh2
Beat
  See Pulse
Benzocaine (P) ,D7517C2B
Benzomorphan (P) ,D72162c
Benzoquinomium chloride (P) ,D75C91s81B+C
Benzothisazide (P) ,D515313
Benzyl alcohol (P) ,D75178
Bertylium tosylate (P) ,D75A91114B+T
Bethanochol chloride (P) ,D75C3131B+C
Bladder (M P) ;452
  relaxation (M P) ;4523
Blease pulmoflator ventillation gas machine (Sp1 to E) –Op4514B+P
Block technique (P) ,A751
Blood
  measurement equipment (Sp1 to E) –Og352
  pressure (M P) ;4352
  tension (M P) ;4355
  vessel (M P) ;435

Appendix 2

Sample page of Index to Test Classification

ANAESTHESIA TECHNIQUE

ANAESTHESIA TECHNIQUE – GENERAL
Cortical depressant. Respiratory distress. Warning. Cerebral function monitor. 3,23
Evaluation. 2
– Intravenous. Barbiturate. Hypoxaemia measurement. 4,26

ANAESTHESIA TECHNIQUE – LOCAL

ACUPUNCTURE
Laser

See Laseropuncture technique under Anaesthesia technique-Local
Local anaesthesia. Treatment. Pain. Chronic. Nerve block (compared with) 5, 15
See also Nerve block under Anaesthesia technique-Local

AXILLARY PLEXUS BLOCK
Administration. Intravenous routs. Catheter. 11
Intravenous local anaesthesia technique. Surgery. Hand. 12, 14
See also Intravenous Local anaesthesia technique under Anaesthesia technique-Local.

BRAIN
Administration. Intravenous route. Intracranial hypertension. / Lidocaine (compared with) Thiopentone. Surgery. 28, 36

BUPIVACAINE
See under Bubivacaine hydrochloride under Anaesthetic-Local

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Infusion. Vasodilation. Improve. Cardiac dysfunction. Chronic. / Sodium nitroprusside. Surgery. 22

CARDIOVASCULAR DRUG

SODIUM NITROPRUSSIDE
Surgery. Cardiac. Infusion. Vasodilation. Improve. Cardiac dysfunction. Chronic. 22

CATHETER
/Axillary plexus block. Administration. Intravenous route. 11

CEREBRAL FUNCTION MONITOR
/General anaesthesia technique. Cortical depressant. Overdosage. Respiratory distress. Warning. 3,23

Appendix 3: Sample page of Test Classification

LY7, A72 GENERAL ANAESTHESIA TECHNIQUE
An Evaluation of the anaesthetic techniques used in an out-patient unit. G.M. Urbach and G. Edelist. Canad. Anaesth. Soc. J. 24, 3; 1977; p. 401–7.
Anaesthesiology (B S) General Anaesthesia techniques (P) Out-patient Unit (Sp1) Evaluation (E)
LY7(B 5) ,A72(p) –OC2(Sp1) aaT(E)
LY7,A72–OC2:aaT

Use of cerebral function monitor in general anaesthesia. (French). P. Radiguet De La Bastiquie and J. Gourues. Ann. Anesthesiol. 20, 3; 1979; p. 187–93 (E.M. A–24; 15, 1; 1980; p. 32)
Anaesthesiology (B S), General Anaesthesia technique (1P) Cortical depressants (2P) Overdosage (Sp1) Respiratory distress (2M P) Warning (2E) Cerebral function monitor (Sp1)
LY7(B S) ,A72(1P) ,D721(2P) –OS4(Sp1) ;44L(2M P) :dxB(2E) –Og721C+F+M(Sp1)
LY7,A72,D721–OS4;44L:dxB–Og721C+F+M

* Added entry under ,D721 Cortical depressant

LY7 ,APH HYPOTHERMIA TECHNIQUE
Infant's hemostasis variation under deep hypothermia. (French). V.B. Doutremepuich. Ann. Anesth. 18, 1; 1977; p. 62–7, E.M. A–24; 13, 3; 1978; p. 667.
Anaesthesiology (B S) Hypothermia (P) Deep (Sp1) Controlled (Sp1) Surgery (Sp1) Infant (Sp2) Cardiac (Sp3) Hemostasis variation (M P)
LY7 (B S) , APH(P) –OP2(Sp1) –ON1(Sp2) –OL(Sp2) =OBC2(Sp2) ≡OP32(Sp3) ;4v(M P)
LY7,APH,–OP2–ON1–OL=OBC2≡OP32;4v

LY7 ,D DRUGS

LY7 ,D35 VASCULAR DRUGS
Haemodynamic effects of Nitroprusside infusion during heart operation. (French). D. Lappas and G. Tsitouris. Gre-Hall. Cardiol. Rev. 18, 4; 1977; p. 293–8, E.M. A–24; 13, 8; 1978; p. 2645.
Anaesthesiology (B S) Sodium nitroprusside (P) Surgery (Sp1) Cardiac (Sp2) Infusion (IE) Vasodilation (M P) Improve (1E) Cardiac dysfunction (Sp1) Chronic (Sp2)
LY7(BS) ,D3536S+N(P) –OL(Sp1) =OP32(Sp2) :aD4(1E) ;43553(M P) :r7(2E) –O9432E(Sp1) =Oa4h1(Sp2)
LY7, D3536S+N=OL=OP32:aD4;43553:r7–Oa432E=Oa4h1

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Ninth European Meeting on Cybernetics and Systems Research

The Austrian Society for Cybernetic Studies, in cooperation with the University of Vienna, Department of Medical Cybernetics and Artificial Intelligence invites papers for EMCSR 88, to be held on April 5-8, 1988 at the University of Vienna. Deadline for submission is Oct.15, 87. 12 Symposia are outlined, among which the following: General Systems Methodology; Designing and Systems; Humanity, Architecture, and Conceptualisation; Fuzzy Sets and Systems: Expert Systems and Approximate Reasoning; Computer-Aided Systems Theory (CAST); Artificial Intelligence. For further information contact: Organizing Committee of the Ninth European Meeting on Cybernetics and Systems Research 1988, c/o Österreichische Studiengesellschaft für Kybernetik, Schottengasse 3, A-1010 Wien 1, Austria.

Draft Proposal "Vocabulary of Terminology"

ISO/TC 37 (Terminology "Principles and Coordination") circulated a Draft Proposal ISO/DP 1087 in English and French in March 1987 with comments expected by June 1, 1987. The scope is given as follows: "This international standard establishes the glossary for the science of terminology and its practical applications. It is applicable to all terminological activities on national and international level". The Draft contains the definitions of 124 concepts in systematic order under the following headings: Language and Reality, Concept, Definition, Terminology, Relations between Terms and Concepts, Term Formation, Evaluation of Terms, Vocabulary Preparation, Vocabulary Presentation, Machine-aided Terminology Work, Theoretical Foundations and Practical Applications. The Draft was prepared by the Working Group 5 "Vocabulary of Terminology" (ISO/TC/WG5), established at the Plenary Meeting of ISO/TC in 1981. It is stated that the work of ISO/TC46/SC3 "Vocabulary of Documentation" was considered in the preparation of this DP.