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Medical Radiology: Depth Classification.

(Classification problems. 11). (Design series. 9).

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After defining the terms in Radiology used in the paper, discusses the assignment of Diagnostic Radiology and Therapeutic Radiology to the Third Round in the Analysed Title of any document embracing either of them, and the extension of the (HC). Works out a Scheme for the depth Classification of subjects going with the (HC) Diagnostic Radiology and Therapeutic Radiology. Provides an Alphabetical Index to the Schedule. Gives a classified list of 61 examples classified according to the scheme drawn up. Gives also Class Index Entries, derived by Chain Procedure, for the examples.

ABBREVIATIONS USED

CC	= Colon Classification	[4P1]	= Personality Facet of Round 4 Level 1
[3E]	= Energy Facet of Round 3		
[4E]	= Energy Facet of Round 4	[4P2]	= Personality Facet of Round 4 Level 2
(HC)	= Host Class (es)		
(IN)	= Isolate Number	[5P1]	= Personality Facet of Round 5 Level 1
[P]	= Personality Facet		
[3P1]	= Personality Facet of Round 3 Level 1	(QI)	Quasi Isolate(s)

0 Introduction

01 ELECTROMAGNETIC AND PARTICULATE RADIATION

S N	Frequency cps	Wavelength m.	Name	Typical source
1	2	3	4	5
Electromagnetic Radiation				
1	10^{28}	3×10^{-15}	Cosmic photon	Astronomical
2	10^{22}	3×10^{-14}	Gamma ray	Radioactive nuclei
3	10^{21}	3×10^{-13}	Gamma ray	Radioactive nuclei
4	10^{21}	3×10^{-13}	X-ray	Atomic inner shell
5	10^{20}	3×10^{-12}	X-ray	Atomic inner shell
6	10^{19}	3×10^{-11}	X-ray	
7	10^{18}	3×10^{-10}	X-ray	Electron impact on solid
8	10^{13}	3×10^{-10}	Ultraviolet ray	
9	10^{17}	3×10^{-9}	Ultraviolet ray	Atoms in spark
10	10^{16}	3×10^{-8}	Ultraviolet ray	
11	10^{15}	3×10^{-7}	Visible light	Atoms in sparks and arc
12	10^{14}	3×10^{-6}	Infra-red (Near)	
13	10^{13}	3×10^{-5}	Infra-red (Intermediate)	Atoms, hot bodies, molecules
14	10^{12}	3×10^{-4}	Infra-red (Far)	
15	10^{11}	3×10^{-3}	Microwaves	Hot bodies, molecules
16	10^{10}	3×10^{-2}	Microwaves	
17	10^{10}	3×10^{-3}	Radar	Hot bodies, molecules
18	10^9	3×10^{-1}	Radar	
19	10^8	3	Television, FM radio	Hot bodies, molecules
20	10^7	3×10^1	Shortwave radio	
21	10^6	3×10^2	AM radio	Electronic devices
22	10^5	3×10^3	Longwave radio	
23	10^4	3×10^4	Induction heating	Electronic devices
24	10^3	3×10^5	Power	
25	10^2	3×10^6	Power	Rotating machinery
26	10	3×10^7	Power	
27	1	3×10^8	DC	Rotating machinery
28	0	Infinity	DC	
Particulate Radiation				
1			Photon	Atomic nuclei
2			Electron (Beta-particle)	
3			Positron	Radioactive decay
4			Meson	
5			Proton	Cosmic ray
6			Neutron	
				Light H nucleus
				Alpha-particle bombardment

02 CHRONOLOGY

S N	Name	Discovery		
		Year	By	Source
1	2	3	4	5
Electromagnetic Radiation				
1	Gamma ray ..	1896 1898 1899 1934	Becquerel (H) Curie (M) and (P) Villard Curie (I) and (J)	Natural radioactivity Radium Uranium Artificial nuclei dis- integration (Radio isotope)
2	X-ray ..	1895	Roentgen (WC)	
3	Ultraviolet ray ..			
4	Infra-red ray ..	1800 1843	Herschel (W) Becquerel (H)	Sunlight Photographic effect of near infra-red
5	Radio wave ..	1935	Jansky (K)	Astronomical
Particulate Radiation				
6	Electron .. (Beta-Particle)	1897	Thompson (J J)	
		1898	Rutherford	Uranium
		1907	Millikan (R A)	
7	Positron ..	1928	Dirac (P A M)	
		1932	Anderson (C D)	Radioactive decay
8	Meson ..	1935	Yukawa (H)	Cosmic ray
9	Proton ..	1911	Rutherford	Light H nucleus
		1913	Marsden	
10	Neutron ..	1932	Chadwick (J)	Alpha particle bombardment

1 First Medical use

11 GAMMA RAY

111 TRACER STUDY

S N	Year	Reporter	Report on
1	2	3	4
1	1934	Hevesy (G)	Radioisotope tracer study (In plants)
2	1935	Lacassagne (A)	Radioactive Polonium in animal organ
3	1950	Fitzgerald (P J) <i>et al.</i>	Tritium labelling

112 THERAPEUTICS

S N	Year	Reporter	Report on
1	1903	Goldberg (S W) and London (W S)	Cancer
2	1904	Dunlos	Radium therapy
3	1910-15	Forssell (C G A)	Uterine cancer (Stockholm method)
4	1933-39	Regaud (C)	Uterine cancer (Paris method)

12 X-RAY

121 DIAGNOSIS

S N	Year	Reporter	Report on
1	1896	Cox (J) and Kirkpatrick (R C)	Bullet location in leg
2	1896	Pupin (M I)	Intensifying screen
3	1897	Thomson (E)	X-ray stereoscope
4	1897	MacIntyre (J)	X-ray cinematograph
5	1909	Groedel (F M)	
6	1932	Gianturco (C) and Alvarez (W C)	Camera for above
7	1902	Holznecht (G)	
8	1903	Albers-Schoenberg (H E)	Compression diaphragm
9	1913-14	Bucky (G)	Grating diaphragm
10	1913-14	Coolidge (W D)	Vacuum tube
11	1914	Cary (W H)	Salpinography
12	1921	Sicard (J A) and Forestier (J)	Lipiodol contrast medium
13	1929	Oka (M)	Thorostrast contrast medium
14	1931	Stumpf (P)	Kymography
15	1933	Bartelink (D L)	Tomography
16	1935	Grossmann (G)	

122 THERAPEUTICS

S N	Year	Reporter	Report on
1	1897	Freund (L)	Deep therapy of Naevus pigmentosus pilosus
2	1899	Sjogren (T A V)	Cancer
3	1903	Perthes (G C)	Carcinoma
4	1906	Bergonie (J) and Tribondeau (L)	Cell sensitivity (Bergonie-Tribondeau Law)
5	1909	Domici	Protecting surrounding tissue in irradiation of malignant tumor

13 ULTRAVIOLET RAY

131 THERAPEUTICS

S N	Year	Reporter	Report on
1	1896	Finsen (N R)	Actinotherapy
2	1899	Finsen (N R)	Lupus

14 PARTICULATE RADIATION

The use of particulate radiation in diagnosis, therapeutics, and surgery came to be tried mainly after the production of atomic and sub-atomic particles was facilitated with the advent of particle accelerators during and after World War II.

15 MEDICAL RADIOLOGY

Medical radiology can include the use of any radiation including elementary particles in the following areas of medicine:

- 1 Diagnosis; and
- 2 Therapeutics.

It can also include the following:

- 1 Protection against injuries due to radiation; and
- 2 Pharmacology of radiation.

16 SCOPE

This paper demonstrates the design of a scheme for the depth Classification of the subjects falling in the area of

- 1 Diagnostic radiology; and
- 2 Therapeutic radiology.

The Schedule given is provisional.

A later paper will be turned on the design of a Scheme for the depth Classification of Medical Radiology falling in the areas of:

- 1 Public health; and
- 2 Pharmacology

17 METHODOLOGY OF DESIGN

The methodology of design is based on the principles outlined in Paper A of Volume 1 of this periodical [9].

2 Terminology

The terminology of Medical Radiology is still in the formative stage. For definiteness, the terminology used in this paper are given below.

21 NUCLEAR RADIATION

Particles and radiations emanating from the atomic nucleus as a result of radioactive decay and nuclear reaction [5].

22 IONIZING RADIATION

Electromagnetic or corpuscular radiation capable of producing ions [4].

23 NUCLIDE

A species of atom, having a specific mass number, atomic number, and energy state [2].

24 ISOTOPE

Nuclide having the same atomic number but different mass number [3].

25 RADIOLOGY

The science and application of X-rays, gamma rays and other penetrating ionizing radiations [1].

26 INDUSTRIAL RADIOLOGY

The science and application of gamma rays, and other penetrating ionizing radiations, and X-rays for industrial purposes such as in the radiography of metals, manufacture of fuel elements for reactors, and guided missile industry.

27 MEDICAL RADIOLOGY

The branch of medical science dealing with the use of radioactive substances, X-rays, and ionizing radiations, in the diagnosis and treatment of disease [6].

271 ANNOTATION

In Sec 16 the possible extension of the term Medical Radiology to include areas in public health and pharmacology concerned with radioactive substances, X-rays, and other ionizing radiations was indicated.

28 NUCLEAR MEDICINE

The branch of medical science dealing with the effects and use of nuclear radiations.

3 Locus of the Isolate Radiation**31 LEAST RESTRICTED (HC)**

The least restricted (HC) covered by this paper are

- 1 Medicine, Disease, Diagnosis; and
- 2 Medicine, Disease, Therapeutics (*see* Examples 1 to 25 in Sec 82).

32 THIRD ROUND

This implies the assignment of Diagnostic Radiology and Therapeutic Radiology to the Third Round [11] in the Analysed Title [14] of any document embracing either of them. All the titles in Sec 82 are examples.

33 RESTRICTED (HC)

The extension of the (HC) may also be found restricted in certain documents. The restriction may be caused by the occurrence in the documents of one or more of the following isolates:

- 1 Organ isolate in Round 1; and
- 2 Causal factor of disease in Round 2 (*see* Examples 26-57 in Sec 82)

34 SPECIAL TERMINOLOGY

In order to cover both kinds of (HC), the bare term 'Diagnosis' or 'Therapeutics' is used, for the sake of simplicity, to denote any (HC) restricted or unrestricted.

35 COMMON SCHEDULE

In Round 3, 'Radiation' is only one of the many possible isolates in subjects going with Diagnosis and Therapeutics (*see* Sec 71 and 72). It will be a convenience if the same Isolate Number is used to represent the Isolate-Complex 'Radiation', so as to satisfy the Canon of Mnemonics. The Mixed Notation of CC makes it possible to do so. In fact the schedule of Radiation Isolates given in Sec 7 is common to subjects going with Diagnosis and Therapeutics.

36 SCHEDULE OF PURPOSE

The schedule of Purpose and the schedule of Radiation and other means of Diagnosis or Therapy as the case may be are presented in succession in [3P1] (*see* Sec 71). If both 'Purpose' and 'Radiation' occur in a subject, the method of Superimposition [15] will be used to accommodate both of them. This is made possible by the Sector Notation of CC [12].

4 First Characteristics

The following are some of the first characteristics—that is (QI)—used as the basis for the Classification of Diagnostic Radiology and Therapeutic Radiology. The (QI) have been selected by blending the *a priori* and the pragmatic approaches.

41 LIST OF (Q1)

S N	Diagnostic Radiology		Therapeutic Radiology	
	Sector	Quasi Isolate	Sector	Quasi Isolate
1	2	3	4	5
1	(S-ZA)	Purpose	(S-ZA)	Purpose
2	(S-Z1)	Kind of radiation	(S-Z1)	Kind of radiation
3	(S-Za)	Energy of radiation	(S-Za)	Energy of radiation
4	(S-A)	Radioisotope	(S-A)	Radioisotope
5	(S-9ZA)	Source of radiation/ isotope	(S-9ZA)	Source of radiation/ isotope
6	(S-9Za) to (S-9Z1)	Form of radio- nuclide	(S-9Za) to (S-9Z1)	Form of radio- nuclide
7	(S-9A)	Quantity of dose given	(S-9A)	Quantity of dose given
8	(S-9a)	Carrier	(S-1)	Applicator
9	(S-1)	Route of adminis- tration	(S-9a) to (S-99a)	Irradiation tech- nique
10	(S-zZ1)	Applicator	(S-zA)	Field
11	(S-z1)	Contrast medium technique	(S-z1)	Frequency of dose
12	(S-zzA)	Exposure time	(S-zz1)	Exposure time
13	(S-zza)	Position of patient	(S-zza)	Position of patient
14	(S-za)	Combination	(S-zzA)	Number of dose
15	(S-a)	Dose distribution	(S-za)	Combination
16			(S-a)	Dose distribution

42 COMMON (Q1)

A study of a large number of documents on Diagnostic Radiology and Therapeutic Radiology indicates that several of the (Q1) are common to them.

43 SEQUENCE OF THE (Q1)

The sequence in which the (Q1) are enumerated in the table in Sec 41 is taken, for the time being, to be the one satisfying the Wall-Picture Principle [16].

5 Allocation of Sectors

51 PROVISIONAL ALLOCATION

The provisional allocation of the Sectors to the (Q1) is given in columns 2 and 4 in the table in Sec 41 and also at the head of Sec 71 and 72.

511 ANNOTATION

The sequence of the (QI) decided upon in the idea plane is maintained. If any document warrants the use of two or more (QI), then the resulting isolate will be a Super-Imposed Isolate in [3P1] [15].

6 Index to the Schedule

Note.—1 In addition to the contractions given at the beginning of this paper, the following is used in this index:

irt = in relation to.

2 If an isolate belongs to [3P], the symbol [3P] is omitted.

- | | |
|---|---|
| 4 π -Ionisation chamber
[4P2], c6K | Betatron 9ZPR |
| Absorbed dose <i>n</i> | BF3 Ionisation counter
[4P2], c63 |
| Administration, Route of I | Biologicals <i>irt</i> Carrier 9g |
| Air z98 | Blood cell 9g5 |
| Alternating gradient
synchrotron 9ZPN | Bremsstrahlung [3E], 34 |
| Analogue computer [4P2], b2 | Bubble chamber [4P2], h4 |
| Annulling effect <i>irt</i> | Carrirer 9a |
| Comb therapy z57 | Cascade tube 9ZG4 |
| Anterolateral zzh5 | Catheter <i>irt</i> Contrast medium z3 |
| Anthracene scint
counter [4P2], c4251 | Camera [4P2], v1 |
| Anticoincidence count [3E], 36 | Capsule zZ2 |
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| Apron [4E], 5G | CdS counter [4P2], c25 |
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| Autoradiography [4P2], nH | Chemotherapy combination zp |
| Autostereoscope [4P2], n31 | Cherenkov counter [4P2], c5 |
| Background count [3E], 31 | Chlormerodrin 9e1 |
| Barium | Cinefluoroscope [4P2], n745 |
| concrete [4E], 555 | Circular field zN |
| contrast medium z92 | Cisternal puncture <i>irt</i>
Contrast medium z472 |
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counter [4P2], c46B | Clinometer [4P2], v4 |
| plaster [4E], 556 | Closed circuit television [4P2], p1 |
| Bath 5 | Cockcroft-Walton generator 9ZPB |
| Beta particle Z5J | |

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 Combination *za*
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 Composite filter [3E], 156C
 Compass [4P2], *v5*
 Computer [4P2], *b*
 Concurrent combination *zc*
 Condenser dosimeter [4P2], *f8*
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 Second *zz2*
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 printer [4P2], *m5*
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 Double
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 conductivity dosimeter [4P2], *fC6*
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 therapy *irt* Combination *zn6*
 Electrochem dot printer [4P2], *m56*

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 Elevated dorsal position zzd1
 End window counter
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 Neutron *ZST*
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 analyzer [4P2], *g582*
- Radiation *Z5*
 diagnosis *irt* Combination *zn5*
 incidence 15
 monitoring [4E], 35
 survey [4E], 2
 therapy *irt* Combination *zn5*
 Radiographic unit [4P2], *n*
 Radioisotope *A*
 Radioluminescence dosimeter
 [4P2], *fc5*
 Radionuclide, Form of 9*Za*
 Range finder [4P2], *v3*
 Reactor 9ZM
- Reclining *zzm*
 Recording [3E], 5
 instrument [4P2], *k*
 Rectangular field *zM*
 Rectilinear scan [3E], 2B4
 Recumbent
 dorsal *zzd2*
 lateral *zzh2*
 Removal *ZQ*
 Repeated dose *z1Z*
 Resonant & pulse
 transformer 9ZPF
 Rice phantom [3E], 3R1
 Rigid dorsal *zzd3*
 Rose bengal *9j1*
 Rotational technique *9p5*
- Sandwich irradiation *9e*
 Scanner [4P2], *c*
 Scanning [3E], 2
 Scatter dose *e*
 Scintillation
 camera [4P2], *n73*
 counter [4P2], *c4*
 Second dose *zz2*
 Seconds *zzH*
 Section scanning [3E], 2C
 Seed *zZ58*
 Segment irradiation *9x*
 Semi-inclined position *zzm2*
 Serial radiograph [4P2], *nC*
 Serum *9g6*
 albumin *9g7*
 Shielding [3E], 155
 irt Protection [4E], 5E
 Shoe and stocking dorsal *zzd6*
 Single
 channel pulse height
 analyser [4P2], *g51*
 dose *z1*
 plane implant *9b1*
 Sitting *zzn*
 Size measurement *ZG1*
 Skin dose *f*
 Small field *zB*
 Sm loaded liq scint count [4P2], *c46S*

- Soft
 gamma ray Z541
 X-ray Z531
- Solid
 Cherenkov counter
 [4P2], c512
 scint counter [4P2], c42
 state dosimeter [4P2], fC
- Source
 of radiation 9ZA
 to film distance [3E], 145
- Spark
 counter [4P2], c6G
 scan [3E], 23
- Spectrometer [4P2], g
- Spherical ionization
 counter [4P2], c6F7
- Stallar zZ85
- Standing zZP
- Stereoscope [4P2], n3
- Stereoscopic
 radiograph nF2
 scanner [4P2], c3
 scanning [3E], 2D
- Sublethal dose k1
- Superficial irradiation 9k
- Supine zZd
- Supralethal dose k7
- Surface dose b
- Surgery ZQ
 combination zq
- Synchrocyclotron 9ZPJ
- Telecurie therapy unit [4P2], x
- Teleradiography [4P2], nJ
- Teleradium therapy unit x
- Teletherapy 9j
- Television [4P2], p
- p-Terphenyl in toluene
 scint counter c452
- Tetraphenyl in polyvinyl
 toluene scint counter
 [4P2], c4573
- Thallium
 chloride counter [4P2], c2831
 iodide counter [4P2], c2832
- Therapy ZP
 combination zn4
 tube 9ZJ6
- Thermal diagnosis combination zp4
- Thermoluminescence
 dosimeter [4P2], fC4
- Thermopile counter [4P2], c6M
- Threshold dose d
- Third dose zz3
- Time, Exposure zzA
- Tolerance dose g
- Total body scanning [3E], 2H
- Trans-stilbene scint
 counter [4P2], c4252
- Transistorised
 dosimeter [4P2], fC2
- Transverse section
 scanning [3E], 2CA
- Trap *irt* Protection [4E], 5C
- Treatment combined with zm
- Triolein 95
- Tube zZ5
 filter [3E], 156B
- Tumour dose s
- Tungsten alloy [4E], 558
- Two plane implant 9b2
- Ultra-fractionated dose z21
- Ultraviolet Z52
- Unilateral zzh
- Untoward reaction [3E], 44
- Vacuum 9ZD1
- Van de Graaff generator 9ZPE
- Ventral position zzf
- Video tape recorder [4P2], r
- View finder [4P2], r2
- Vinyl catheter z3V
- Visualisation [3E], 5
- Volume
 implant 9c
 measurement ZG3
- Water
 + 2 amino-6, 8, naphth disulph
 Cherenkov counter [4P2], c5155

Water (*Contd.*)

phantom [3E], 3E5	Wilson cloud chamber [4P2], h1
scint counter [4P2], c5154	
Wedge-filter [3E], 156D	X-ray Z53
Weekly dose z6	
Weeks <i>irr</i> Exposure time zzD	Zinc sulphide
Whole body	detector c23
irradiation 9v	scint counter c4218
scanning [3E], 2H	

7 Schedule

71 DIAGNOSTIC RADIOLOGY

L: 4: 3, [3P1]: [3E]cum[4P1],[4P2]: [4E]cum[5P1]

Formula for the Quasi Isolate sequence in [3P]:

In words:

(Medicine, Diagnosis)—[(Purpose)-(Kind of radiation)—(Energy of radiation)—(Radioisotope)—(Source of radiation/radioisotope)—(Form of radionuclide)—(Quantity of dose given)—(Route of administration)—(Carrier)—(Applicator)—(Contrast medium)—(Exposure time)—(Position of patient)—(Combination)—(Dose distribution)].

In symbols:

L: 4: 3—(S-ZA)—(S-Z1)—(S-Za)—(S-A)—(S-9ZA)—(S-9Za to 9Z1)—(S-9A)—(S-91)—(S-9a)—(S-1)—(S-z1)—(S-zzA)—(S-zza)—(S-za)—(S-a).

<i>Foci in</i> [3P]	<i>p</i>	Exit
<i>a</i> By dose distribution	<i>q</i>	Free air
	<i>r</i>	Pastille
	<i>s</i>	Tumour
<i>Tel</i> (A2) into (A1) begins	<i>t</i>	Specific organ
<i>b</i> Field (Surface)		<i>Note: Divide as in [P]</i>
<i>c</i> Scatter		'L Medicine'
<i>d</i> Threshold		(illustrative)
<i>f</i> Skin	<i>t12</i>	Tissue
<i>g</i> Tolerance		<i>Tel</i> (A2) into (A1) ends
<i>h</i> Maximum permissible		
<i>j</i> Depth	<i>za</i>	By combination
<i>k</i> Lethal		By time
<i>k1</i> Sublethal	<i>zb</i>	Pre-
<i>k5</i> LD50	<i>zc</i>	Concurrent
<i>k7</i> Supralethal	<i>zd</i>	Post
<i>n</i> Absorbed	<i>zf</i>	Given time
<i>n5</i> Integral (Integrated)		

<i>zm</i>	<i>By method of diagnosis combined with</i>	<i>zzx</i>	Opisthotonos
		<i>zzy</i>	Coiled
			<i>Tel 2 (A2) into (A1) ends</i>
			<i>Tel 1 (A2) into (A1) ends</i>
	<i>Tel (A2) into (A1) begins</i>		
<i>jn</i>	Physical		
<i>zn4</i>	Thermal	<i>zzA</i>	By Exposure time
<i>zn5</i>	Radiational		<i>Tel (A2) into (A1) begins</i>
<i>zn6</i>	Electrical	<i>zzC</i>	In months
<i>zp</i>	Pathological	<i>zzD</i>	In weeks
	<i>Tel (A2) into (A1) ends</i>	<i>zzE</i>	In days
		<i>zzF</i>	In hours
		<i>zzG</i>	In minutes
<i>zza</i>	By position of patient	<i>zzH</i>	In seconds
<i>zzc</i>	Decubitus (Horizontal)		
			<i>Note: Given number of units to be added as an integer, in Hindu-Arabic numerals</i>
	<i>Tel 1(A2) into (A1) begins</i>		<i>(illustrative)</i>
<i>zzd</i>	Dorsal (Supine)		
<i>zzd1</i>	Elevated	<i>zzE2</i>	Two days
<i>zzd2</i>	Recumbent	<i>zzF3</i>	Three hours
<i>zzd3</i>	Rigid	<i>zzG45</i>	Forty-five minutes
<i>zzd5</i>	Dorsosacral		<i>Tel (A2) into (A1) ends</i>
<i>zzd6</i>	Shoe and stocking		
<i>zzf</i>	Ventral (Prone)		
<i>zzf4</i>	Lateroabdominal	<i>z1</i>	By Contrast medium technique
<i>zzh</i>	Lateral (Unilateral)		<i>By route of administration</i>
<i>zzh2</i>	Recumbent	<i>z2</i>	Ingestion
<i>zzh4</i>	Inclined	<i>z3</i>	Catheter
<i>zzh5</i>	Antero-	<i>z3N</i>	Nylon
<i>zzh6</i>	Postereo-	<i>z3P</i>	Polyethylene
<i>zzm</i>	Inclined (Reclining)	<i>z3V</i>	Vinyl
<i>zzm2</i>	Semi	<i>z4</i>	Puncture
<i>zzn</i>	Sitting	<i>z472</i>	Cisternal
<i>zzn2</i>	Orthopaedic	<i>z473</i>	Lumbar
<i>zzn3</i>	Genucubital	<i>z6</i>	Injection
<i>zzn4</i>	Genupectoral		
<i>zzp</i>	Standing		<i>Note: For a given route, add after the digit 6 the isolate number for the organ from [P] of 'L Medicine' (illustrative)</i>
<i>zzq</i>	Other special positions		
	<i>Tel 2 (A2) into (A1) begins</i>	<i>z636</i>	Intravenous
<i>zzr</i>	High pelvic	<i>z8</i>	Evacuation (Enema)
<i>zzt</i>	Jack knife	<i>z82</i>	Double enema
<i>zzu</i>	Kidney	<i>z91</i>	<i>By medium (substance)</i>
<i>zzv</i>	Lithotomy		

	<i>Tel (A2) into (A1) begins</i>	9e2	Diodrast
z92	Barium	9e3	Hippuran
z98	Air	9e4	Ferrocene in CCl ₄
	<i>Tel (A1) into (A1) ends</i>	9e5	Triolein
z9A	Others	9e6	Fluorescein
	By (AD)	9g	Biologicals
z (A)	Double contrast	9g5	Blood cell
	Bv (AD)	9g54	Damaged
	(illustrative)	9g6	Serum
z (M-T)	Micropaque — Thorotrast	9g7	Serum albumin
		9g8	Fibrinogen
zZ1	By applicator	9j	Plant products
	<i>Tel (AD) into (A1) begins</i>	9j1	Rose bengal
zZ2	Capsule		<i>Tel (A2) into (A1) ends</i>
zZ3	Needle		
zA32	Differentially loaded		By quantity of dose given (per kg)
zZ5	Tube	9B	Low
zZ51	Cell	9E	High
zZ58	Seed	9F	In microcurie
zZ6	Plaque	9H	In millicurie
zZ8	Other methods	9K	In curie
zZ85	Gold filtered		<i>Note: The given number</i>
zZ86	Platinum filtered		<i>of units to be added as an</i>
zZ8S	Stallar		<i>integer in Hindu-Arabic</i>
	<i>Tel (A2) into (A1) ends</i>		<i>numerals</i>
			<i>(illustrative)</i>
1	By route of administration	9F50	Fifty microcurie
21	Oral	9H15	Fifteen millicurie
4	Inhalation	9K1	One curie
45	with mask		
5	Bath	9Za	By form of radionuclide
6	Injection (Parenteral)		<i>Note: Divide as in</i>
	<i>Note: For a given route</i>		<i>'(9a) By functional group'</i>
	<i>add after the digit 6 the</i>		<i>in [P1] of 'LX3 Pharma-</i>
	<i>isolate number for the organ</i>		<i>cology' [Lib sc 1; 1964;</i>
	<i>from [P] of 'L Medicine'</i>		<i>Sec 7]</i>
	<i>(illustrative)</i>		<i>(illustrative)</i>
627	Rectal	9Zb5	Iodide
636	Intravenous		<i>And the following</i>
637	Intra-arterial	9Z5	Colloid
		9Z8	Gas
9a	By Carrier		
		9ZA	By source
	<i>Tel (A2) into (A1) begins</i>	9ZB	Internal
9e	Chemical	9ZC	External
9e1	Neohydrin (Chloromerodrin)		

	<i>Tel (A2) into (A1) begins</i>	A574	Arsenic 74
9ZD	Discharge tube	P32	Phosphorus 32
	<i>By filling</i>	ZR96	Zirconium 96
9ZD1	Vacuum		
9ZD8	Gas		
	<i>By cathode</i>	By energy of radiation	
9ZE4	Hot	Zb	Low
9ZE5	Cold		<i>Note: Given data for eV</i>
	<i>By voltage</i>		<i>to be corrected to two</i>
9ZG2	Grenz		<i>decimal places, multiplied</i>
9ZG4	Cascade		<i>by 100, and the resulting</i>
	<i>By special purpose</i>		<i>figure added as an integer</i>
9ZJ1	Flash		<i>after b</i>
9ZJ2	Contact		<i>(illustrative)</i>
9ZJ3	Diagnostic	Zb250	2.5 eV
9ZJ6	Therapy	Ze	High
			<i>Note: Given data for</i>
9ZM	Reactor		<i>MeV to be added as an</i>
9ZP	Particle accelerator		<i>integer after e</i>
9ZPB	Cockroft-Walton generator		<i>(illustrative)</i>
9ZPC	Impulse generator	Ze5	5 Me
9ZPE	Van de Graaff generator		
9ZPF	Resonant and pulse trans- former set	By method of diagnosis	
9ZPH	Cyclotron	Z1	Clinical
9ZPJ	Synchrocyclotron	Z2	Physical
9ZPK	Electron cyclotron		<i>Tel (A2) into (A1) begins</i>
9ZPM	Proton synchrotron	Z5	Radiation
9ZPN	Alternating gradient synchrotron	Z52	Ultraviolet
		Z53	X-ray
9ZPQ	Fixed-field alternating gra- dient synchrotron	Z531	Soft
		Z533	Hard
9ZPR	Betatron	Z54	Gamma ray
9ZPS	Linear accelerator	Z541	Soft
		Z543	Hard
		Z56	Infra-red
	<i>Tel (A3) into (A2) begins</i>	Z5A	Particulate radiation.
9ZPT	Heavy particle		
9ZPV	Electron		
	<i>Tel (A3) into (A2) ends</i>		<i>Tel 1 (A3) into (A2) begins</i>
	<i>Tel (A2) into (A1) ends</i>	Z5C	Photon
		Z5H	Electron
A	By radioisotope		
	<i>To be got by (AD)</i>		<i>Tel (A4) into (A2) begins</i>
	<i>(illustrative)</i>	Z5J	Beta particle

		<i>Tel (A5) into (A2) begins</i>	Z94	Pathological
Z5M	Positron			
		<i>Tel (A5) into (A2) ends</i>		
		<i>Tel (A4) into (A2) ends</i>		By purpose
				<i>For Diagnosis</i>
			ZB	Detection
Z5N	MU Meson		ZC	Differentiation
Z5F	Pi meson		ZD	Deduction
Z5Q	K Meson		ZE	Location
Z5R	Nucleon		ZF	Exclusion
			ZG	Measure
			ZG1	Size
		<i>Tel 2 (A4) into (A2) begins</i>	ZG3	Volume
Z5S	Proton		ZJ	Prognosis
Z5T	Neutron			<i>For Therapeutics</i>
		<i>Tel 2 (A4) into (A2) ends</i>	ZM	Palliation
		<i>Tel 1 (A3) into (A2) ends</i>	ZN	Arrest (Control)
		<i>Tel (A2) into (A1) ends</i>	ZP	Cure (Therapy)
			ZQ	Surgery (Removal)
			ZS	Destruction
Z6	Electrical			

72 THERAPEUTIC RADIOLOGY

L: 4: 3,[3P]:[3E]cum[4P1],[4P2]:[4E]cum[5P1].

Formula for the Quasi Isolate sequence in [3P]:

In words:

(Medicine, Therapeutics), [(Purpose)—(Kind of radiation)—(Energy of radiation)—(Radioisotope)—(Source of radiation/isotope)—(Form of radionuclide) (Quantity of dose given)—(Irradiation technique)—(Applicator)—(Field)—(Frequency of dose)—(Exposure time)—(Number of the dose)—(Position of the patient)—(Combination)—(Dose distribution)].

In symbols:

L: 4: 6, [(S-ZA)—(S-Z1)—(S-Za)—(S-A)—(S-9ZA)—(S-9Za to 9Z1)—(S-9A)—(S-9a to S-99a)—(S-1)—(S-za)—(S-z1)—(S-zzA)—(S-zz1)—(S-zza)—(S-Za)—(S-a)].

<i>Foci in [3P]</i>	Za	By combination
By dose distribution		<i>By time</i>
<i>Isolates as for</i>	zb	Pre-
'a By dose distribution'	zc	Concurrent
in Diagnostic Radiology	zd	Post

<i>zf</i>	Given time	<i>z1</i>	Single
<i>zm</i>	By method combined with	<i>z1Z</i>	Multiple, Repeated
		<i>z2</i>	Fractionated
		<i>z21</i>	Ultra-
	<i>Tel (A2) into (A1) begins</i>	<i>z4</i>	Hourly
<i>zn</i>	Physical		<i>Note: Add the given</i>
<i>zn4</i>	Thermal		<i>unit. as an integer, in</i>
<i>zn5</i>	Radiational		<i>Hindu-Arabic numerals</i>
<i>zn6</i>	Electrical		<i>(Illustrative)</i>
<i>zn7</i>	Magnetic	<i>z43</i>	Three times hourly
<i>zp</i>	Chemotherapy	<i>z5</i>	Daily
	<i>Note: Isolate Number</i>		<i>Note: (Same as for z4)</i>
	<i>for particular drug to be</i>	<i>z6</i>	Weekly
	<i>got by (AD)</i>		<i>Note: (Same as for z4)</i>
	<i>(illustrative)</i>	<i>z7</i>	Monthly
<i>zpP</i>	Pencillin		<i>Note: (Same as for z4)</i>
<i>zq</i>	Surgery		
	<i>Tel (A2) into (A1) ends</i>		
		<i>zA</i>	By field
<i>zs</i>	By Purpose	<i>zB</i>	Small
<i>zs1</i>	Promotion of effect	<i>zE</i>	Large
<i>zs2</i>	Partial promotion of effect	<i>zM</i>	Rectangular
<i>zs7</i>	Annuling effect	<i>zN</i>	Circular
<i>zs8</i>	Negative effect		
		1	By applicator
<i>zza</i>	By position of patient		<i>Isolates as for</i>
	<i>Isolates as for</i>		'1 By applicator' in
	'zza By position of patient'		Diagnostic Radiology
	in Diagnostic Radiology		
			By irradiation technique
By number of the dose			
<i>zz1</i>	First dose	<i>9a</i>	Implant
<i>zz2</i>	Second dose		
<i>zz3</i>	Third dose		
			<i>Tel 1 (A2) into (A1) begins</i>
<i>zza</i>	By exposure time	<i>9b</i>	Planar
	<i>Isolates as for</i>	<i>9b1</i>	Single plane
	'zza by exposure time'	<i>9b2</i>	Two plane
	in Diagnostic Radiology	<i>9b7</i>	Multiple plane
		<i>9c</i>	Volume
		<i>9d</i>	Permanent
By frequency of dose			<i>Tel 1 (A2) into (A1) ends</i>

9e	Sandwich	9Za	By form of radionuclide
9f	Intracavitary		<i>Isolates as for</i>
9g	Interstitial		'9Za By form of radionuclide' in Diagnostic Radiology.
9h	External irradiation		
	<i>Tel 2 (A2) into (A1) begins</i>		
9j	Teletherapy	9ZA	By source
9k	Superficial		<i>Isolates as for</i>
9k7	Contact		'9ZA By source' in Diagnostic Radiology.
9m	Deep		
9n	Crossfire		
	<i>Tel (A3) into (A1) begins</i>		
		A	By radioisotope
			<i>To be got by (AD)</i>
			<i>(illustrative)</i>
9p	Moving field		
9p2	Pendulum	AS74	Arsenic 74
9p5	Rotational	P32	Phosphorus 32
9p7	Converging beam	ZR96	Zirconium 96
9q	Converging field		
	<i>Tel (A3) into (A1) ends</i>		
		Za	By energy of radiation
			<i>Isolates as for</i>
9r	Grid technique		'Za By energy of radiation' in Diagnostic Radiology.
	<i>By body part irradiated</i>		
9t	Partial		
9u	Segment		
9v	Whole body		
		Z1	By kind of radiation
			<i>Isolates as for</i>
91	By route of administration		'Z1 by kind of radiation' in Diagnostic Radiology
	<i>Isolates as for</i>		
	'1 By route of administration' in Diagnostic Radiology and the following:		
99a	By carrier	Foci in [3E] cum [4P1]	
	<i>Isolates as for</i>	1	Preliminaries
	'9a By carrier' in Diagnostic Radiology	11	Planning
		13	Equipment set up
9A	By quantity of dose given		<i>Tel (A3) into (A2) begins</i>
	<i>Isolates as for</i>	14	Distance adjustment
	'9A By quantity of dose given' in Diagnostic Radiology.	145	Focus-to-film
		145	Source-to-film
		147	Focus-skin

15	Radiation incidence	3E2	Plastic
151	Direction	3E5	Water
152	Collimation	3E7	Presdwood
155	Masking (Shielding)	3E (A)	Others
156	Filter		<i>To be got by (AD)</i>
1561	Metal		<i>(illustrative)</i>
1562	Non-metal	3E (M)	Mix D
156B	Tube	4	Hazard
156C	Composite	44	Untoward reaction
156D	Wedge		<i>Note: Particular disease</i>
158	Exposure meter		<i>to be got by (SD)</i>
	<i>Tel (A3) into (A2) ends</i>	5	Recording (Visualisation)
		51	Manual
		56	Automatic
17	Preparation of patient	7	Data presentation
171	Pre- and post-care	8	Interpretation
172	Pre-care		
177	Post-care		
18	Control		<i>Foci in [4E] cum [5P1] for '4 Hazard'</i>
2	Scanning		<i>in [3E] cum [4P]</i>
	<i>By scan (pattern)</i>	2	Radiation survey
21	Dot	3	Monitoring
22	Line	35	Radiation
221	Modulated	36	Area
23	Spark	37	Personnel
25	Photo	5	Protection
	<i>By body plot</i>	55	<i>By material</i>
B4	Linear	551	Lead
2B4	Rectilinear	552	Lead glass
2C	Section	553	Lead rubber
2C1	Longitudinal	555	Barium concrete
2C4	Transverse	556	Barium plaster
2C5	Cylindrical	558	Tungsten alloy
2D	Stereoscopic	5A	<i>By kind</i>
2H	Whole body (Total body)	5C	Trap
3	Measurement (Counting)	5E	Shielding
	<i>By method</i>		
31	Background		
32	Gross		<i>Tel (A3) into (A2) begins</i>
33	Nett	5F	Glove
34	Bremsstrahlung	5G	Apron
35	Coincidence		<i>Tel (A3) into (A2) ends</i>
36	Anticoincidence		
	<i>By physical material</i>		
3E	Phantom		<i>Foci in [4P2]</i>
3E1	Rice	a	Instrument (Equipment)

	<i>Tel 1 (A2) into (A1) begins</i>	c46S	Sm
b	Computer	c5	Cherenkov counter
b2	Analogue	c51	Non-focusing
b3	Digital	c512	Solid
b8	Mixed	c512F	Fitch
c	Detector (Counter/Scanner)	c515	Liquid
c2	Crystal counter	c5151	N ₂
c21	Diamond	c5152	O ₂
c23	Zinc sulphide	c5153	FC-75
c25	Cadmium sulphide	c5154	Water
c2831	Thallium chloride	c5155	Water + 2, amino-6, 8
c2832	Thallium iodide		Naphthalene disulphonic
c3	Stereoscopic scanner		acid di-sodium salt
c4	Scintillation counter	c5156	Freon 13
c42	Crystal	c53	Focussing
c421	Inorganic crystal	c531	Getting
c4211	NaI (T1)	c5313	Jelley modification
c4212	NaI (pure) at liquid N ₂ point	c532	Marshall
c4213	CsI (T1)	c533	Frisch
c4214	CsI (pure) at liquid N ₂ point	c534	Chamberlain-Wiegand
c4215	LiI (Eu)	c535	Kinsey
c4216	KI (T1)	c536	Spectrometer
c4217	CsF (unactivated)	c6	Ionization detector
c4218	ZnS (Ag)		<i>By gas filling</i>
c42191	CdWO ₄	c61	Helium
c42192	LiF	c63	BF ₃
c425	Organic crystal		<i>By type</i>
c4251	Anthracene	c6C	Geiger Muller
c4252	<i>Trans</i> -Stilbene	c6D	Proportional
c4253	Quarterphenyl	c6D5	End Window
c45	Liquid	c6D6	Flow type
c451	PPO in toluene	c6F	Ionization chamber
c452	<i>p</i> -Terphenyl in toluene	c6F2	Parallel plate
c453	PBD in toluene	c6F21	With grid
c454	PBD in <i>p</i> -xylene	c6F5	Cylindrical
c456	Medicinal paraffin	c6F7	Spherical
c457	Plastic solution	c6F8	High pressure
c4571	Tetraphenylbutadiene in polystyrene	c6FB	Pocket type
c4573	<i>p</i> -Tetraphenyl in poly-vinyl toluene	c6G	Spark counter
c46	Loaded liquid	c6K	Electron multiplier
c46B	B	c6M	4 π
c46C	Cd	c6N	Thermopile
c46G	Gd	c6P	Foil activation
c46P	Pb	e	Monitor
		e1	Film ring
		e5	Film badge

<i>f</i>	Dosimeter	<i>n</i> 31	Auto-
<i>f5</i>	Dose rate meter		
<i>f51</i>	Constancy		<i>Tel</i> (A4) into (A3) begins
<i>f55</i>	Photovoltaic cell	<i>n</i> 32	Parallax
<i>f7</i>	Integrating	<i>n</i> 36	Parallaxpanoramagram
<i>f8</i>	Condenser		<i>Tel</i> (A4) into (A3) ends
<i>fC</i>	Solid state		
<i>fC2</i>	Transistorized		
<i>fC4</i>	Using thermoluminescence	<i>n</i> 5	Colour
<i>fC5</i>	Using radioluminescence	<i>n</i> 73	Scintillation camera
<i>fC6</i>	Using electrical conductivity	<i>n</i> 734	Gamma ray
	in CdS	<i>n</i> 735	Positron
<i>g</i>	Spectrometer	<i>n</i> 74	Fluoroscope
<i>g5</i>	Pulse height analyser	<i>n</i> 741	Auto-
<i>g51</i>	Single channel	<i>n</i> 742	Miniature film
<i>g58</i>	Multi channel	<i>n</i> 745	Cine
<i>g582</i>	Quasi-	<i>n</i> 81	Neutron
<i>h</i>	Particle track visualization	<i>n</i> 84	Gamma
<i>h1</i>	Wilson cloud chamber	<i>n</i> 85	Electron
<i>h18</i>	Counter controlled		<i>By method</i>
<i>h2</i>	Expansion chamber	<i>n</i> B	Flash
<i>h3</i>	Diffusion chamber	<i>n</i> C	Serial
<i>h4</i>	Bubble chamber	<i>n</i> D	Kymography
<i>h41</i>	Liquid H ₂	<i>n</i> F	Tomography
<i>h42</i>	Liquid Xe	<i>n</i> F2	Stroboscopic
<i>h43</i>	Liquid He	<i>n</i> H	Autoradiography
<i>h45</i>	Organic liquid	<i>n</i> J	Teleradiography
<i>h453</i>	Propane	<i>n</i> M	Microradiography
<i>h5</i>	Luminescence chamber	<i>n</i> P	Deca-radiography
<i>h7</i>	Nuclear emulsion	<i>n</i> R	Polaroid radiography
<i>k</i>	Recording instrument	<i>p</i>	Television
		<i>p</i> 1	Closed circuit
		<i>p</i> 5	Colour
	<i>Tel</i> 2 (A2) into (A1) begins	<i>r</i>	Video tape recorder
<i>m</i>	Image-forming device	<i>v</i>	Photographic equipment
<i>m5</i>	Dot printer	<i>v</i> 1	Camera
<i>m55</i>	Photomulti-dotter	<i>v</i> 2	View finder
<i>m56</i>	Electromechanical	<i>v</i> 3	Distance meter (Range
<i>m6</i>	Multi stylus		finder)
<i>m7</i>	Pin-hole camera	<i>v</i> 4	Level (Clinometer)
	<i>Tel</i> 2 (A2) into (A1) ends	<i>v</i> 5	Compass
		<i>v</i> 6	Exposure meter
		<i>v</i> 7	Magnifier
<i>n</i>	Radiographic unit	<i>x</i>	Telecurie therapy unit
<i>n1</i>	Monochromatic	<i>x</i> 1	Teleradium therapy unit
<i>n3</i>	Stereoscope		<i>Tel</i> (A2) into (A1) ends

81 ALPHABETICAL INDEX TO THE ENTRIES IN SEC 82

(Class Index Entries only)

Note.—1 The number (in Hindu-Arabic numerals only) in parenthesis, given after the Class Number, is the Serial Number of the entries in Sec 82.

2 As all the examples given in Sec 82 are from the field of medicine the term 'Medicine' has been omitted from all the Class Index Headings given below.

3 The Class Index Entries have been derived by Chain Procedure.

- Abnormality, Structure, Prostate gland L5661:4711 (46)
- Absorbed dose, Grid technique, Radiation, Therapeutics
L:4:6-Z5-9*n*-*n* (15)
- Applicator
Cobalt 60, Gamma ray, Therapeutics, Malignant, Tumour, Retina, Nerve
L74-18517:4725:6-Z54-CO60-1 (33)
Radium, Gamma ray, Therapeutics L:4:6-Z54-RA-1 (21)
Single plane, Implant Radiation, Therapeutics L:4:6-Z5-9*b*1-1 (13)
- Arsenic 74, Positron, Diagnosis, Tumour, Brain L72:472:3-Z5M-AS74 (55)
- Basophilism, Pituitary L66:47248 (50)
- Beta particle. Therapeutics L:4:6-Z5J (25)
Eye L185:4:6-Z5J (32)
Tumour, Retina L18517:472:6-Z5J (33)
- Betatron, High energy, Electron, Therapeutics, Malignant, Tumour, Breast,
Female L9F-556:4725:6-Z5H-Ze-9ZPR (59)
- Blood cell, Carrier, Chromium 51, Gamma ray, Diagnosis, Spleen
L62:4:3-Z54-CR51-9*g*:5 (48)
- Brain L72 (52-56)
Macaca, Case study, Scanning, Cerebrospinal fluid, Injection, Rose bengal,
50 microcurie, Iodine 131, Gamma ray, Diagnosis, Structural, Disease,
Brain L72:47:3-Z54-i131-9F50-9*j*1-6795:2*y*7,ZR5,72 (54)
- Breast, Female L9F,556 (59-61)
- Calcification, Heart L32:481CA (43)
- Cancer *See* Maglinant, Tumour
- Carrier
10 microcurie, Mercury 203, Gamma ray, Location, Tumour, Brain
L72:472:3-ZE-Z54-HG203-9F10-9*a* (56)
25 microcurie, Iodine 131, Gamma ray, Differentiation, Jaundice
L291:453:3-ZC-Z54-1131-9F25-9*a* (38)

Carrier (*Contd.*)

- 50 microcurie, Iodine 131, Gamma ray, Diagnosis, Structural, Disease,
Brain L72: 47: 3-Z54-1131-9F50-9a (54)
- Chromium 51, Gamma ray, Diagnosis, Spleen
L62: 4: 3-Z54-CR51-9a (48)
- Iodine 131, Gamma ray, Diagnosis Brain
L72: 4: 3-Z54-1131-9a (53)
- Tumour, Liver L291: 472: 3-Z54-1131-9a (39)
- Catheter, Isopaque, Contrast medium, X-ray, Diagnosis, Salivary gland
L216: 4: 3-Z53-z91-z2 (34)
- Cerebrospinal fluid, Injection, Rose bengal, 50 microcurie, Iodine 131, Gamma
ray, Diagnosis, Structural Disease, Brain
L72: 47: 3-Z54-1131-9F50-9j1-6785 (54)
- Chemotherapy, Combination with, X-ray, Therapeutics, Malignant, Tumour
L: 4725: 6-Z53-p (26)
- Child L9C (58)
- Chloromerodrin *See* Neohydrin
- Chromium 51, Gamma ray, Diagnosis, Spleen L62: 4: 3-Z54-CR51
(48)
- Cinefluoroscope, in relation to
Exposure meter, X-ray, Diagnosis L: 4: 3-Z53: 15,v60j5,n745 (8)
Phantom, X-ray, Diagnosis L: 4: 3-Z53: 3E0j5,n745 (9)
- Cineradiography, Compared with, Radiography, X-ray, Diagnosis, Gastro-
intestinal tract L23Z: 4: 3-Z53: 5,n0m745 (35)
- Circulatory system L3 (42-44)
- Closed circuit, Television, Data presentation, Radioisotope, Diagnosis
L: 4: 3-Z5-A: 7,p1 (5)
- Cobalt 60, Gamma ray, Therapeutics L: 4: 6-Z54-CO60 (16-20)
Malignant, Tumour Retina, Nerve L74-18517: 4725: 6-Z54-CO60 (57)
Thorax L15: 4725: 6.Z54-CO60 (30)
- Coincidence, Counting, Inhalation, Cyclotron, Oxygen 15, Positron, Dia-
gnosis, Functional, Disease, Lung L45: 45: 3-Z5M-O15-9ZPH-4: 3F (45)
- Colloid
110 millicurie, Gold 198, Gamma ray, Therapeutics, Malignant,
Tumour, Breast, Female L9F,556: 4725: 6-Z54-AU198-9H110-9Z5 (60)
Gold 198, Gamma ray, Diagnosis, Kidney L61: 4: 3-Z54-AU198-9Z5 (47)
- Combination, X-ray, Therapeutics, Malignant, Tumour
L: 4: 4725: 6-Z53-a (26)
- Contrast medium, X-ray, Diagnosis
Large intestine L27: 4: 3-Z53-z1 (37)

Contrast medium (*Contd.*)

- Lymphatic vessel L39: 4: 3-Z53-z1 (44)
 Obstruction, Pyloric orifice, Child L9C,2482: 478: 3-Z53-z1 (58)
 Salivary gland L216: 4: 3-Z53-z1 (34)
 Wound, Gastrointestinal tract L23Z: 477: 3-Z53-z1 (36)
- Correction factor, Heterogenous, Tissue, Influenceing, Dose distribution,
 Teletherapy, Cobalt 60, Gamma ray, Therapeutics, Malignant, Tumour,
 Thorax L15: 4725: 6-Z54-CO60-9j-a0g L1276: a18 (30)

Counting *See also* Measurement

- Counting, Inhalation, Cyclotron, Oxygen 15, Positron, Diagnosis, Functional,
 Disease, Lung L45: 45: 3-Z5M-O15-9ZPH-4: 3 (45)

Crystal scintillation counter

- Coincidenc, Counting, Inhalation, Cyclotron, Oxygen 15, Posi-
 tron, Diagnosis, Functional Disease, Lung
 L45: 45: 3-Z5M-O15-9ZPH-4: 3F,c42 (45)
- Cylindrical, Scanning, Radioisotope, Diagnosis, Brain
 L72: 4: 3-Z5-A: 27,c42 (52)
- Scanning, Mask, Inhalation, 5 millicurie, Krypton 85, Gamma ray,
 Diagnosis, Heart L32: 4: 3-Z54-KR85-9H5-45: 2,c42 (42)

- Cushing's disease L66: 47248 (50)

- Cyclotron, Oxygen 15, Positron, Diagnosis, Functional, Disease, Lung
 L45: 45: 3-Z5M-O15-9ZPH (45)

- Cylindrical, Scanning, Radioisotope, Diagnosis, Brain
 L72: 4: 3-Z5-A: 27 (52)

- Damaged, Blood cell, Carrier, Chromium 51, Gamma ray, Diagnosis,
 Spleen L62: 4: 3-Z54-CR51-9g54 (48)

- Data presentation, Radioisotope, Diagnosis L: 4: 3-Z5-A: 7 (5)

- Decubitus, X-ray, Diagnosis, Calcification, Heart
 L32: 481CA: 3-Z53-zzc (43)

- Depth dose, Rotation technique, X-ray, Therapeutics
 L: 4: 6-Z53-9p5-j (16)

- Detector, Section, Scanning, Radioisotope, Diagnosis
 L: 4: 3-Z5-A: 2C, c (4)

- Diagnosis L: 4: 3 (1-12)

- Abnormality, Structure, Prostate gland L5661: 4711: 3 (45)
 Brain L72: 4: 3 (52-53)
 Calcification, Heart L32: 481CA: 3 (43)
 Functional, Disease, Lung L45: 45: 3 (45)
 Gall bladder L292: 4: 3 (40)
 Gastrointestinal tract L23Z: 4: 3 (35)
 Heart L32: 4: 3 (42)

Diagnosis (*Contd.*)

- Jaundice L291: 4532: 3 (38)
- Kidney L61: 4: 3 (47)
- Large intestine L27: 4: 3 (37)
- Lymphatic vessel L39: 4 (44)
- Obstruction, Pyloric orifice, Child L9C,2482: 478: 3 (58)
- Pancreas L293: 4: 3 (41)
- Salivary gland L216: 4: 3 (34)
- Spleen L62: 4: 3 (48)
- Structural, Disease
 - Brain L72: 47: 3 (54)
 - Nervous system L7: 47: 3 (51)
- Tumour
 - Brain L72: 472: 3 (55-56)
 - Liver L291: 472: 3 (39)
- Wound, Gastrointestinal tract L23Z: 477: 3 (36)
- Differentiation, Jaundice L291: 453: 3-ZC (38)
- Digestive system L2 (34-41)
 - Child L9C,2 (58)
- Disease L: 4 (1-33)
 - Brain L72: 4 (52-56)
 - Breast, Female L9F,556: 4 (59-61)
 - Eye L185: 4 (32)
 - Forehead L182: 4 (31)
 - Gall bladder L292: 4 (40)
 - Gastrointestinal tract L23Z: 4 (35-36)
 - Heart L32: 4 (42-43)
 - Kidney L61: 4 (47)
 - Large intestine L27: 4 (37)
 - Liver L291: 4 (38-39)
 - Lung L45: 4 (45)
 - Lymphatic vessel L39: 4 (44)
 - Nervous system L7: 4 (51)
 - Pancreas L293: 4 (41)
 - Pituitary L66: 4 (50)
 - Prostate gland L5661: 4 (46)
 - Pyloric orifice, Child L9C,2482: 4 (58)
 - Retina L18517 (33)
 - Nerve L74-18517: 4 (57)
 - Salivary gland L216: 4: 3 (34)
 - Spleen L62: 4 (48)
 - Thorax L15: 4 (30)
 - Thyroid L65: 4 (49)
- Untoward reaction, Ultra Fluid Lipiodol, X-ray, Diagnosis,
 - Lymphatic vessel L39: 4: 3-Z53-z9U: 44 (L45: 4) (44)

Dose distribution

Electron synchrotron, Fast electron, Therapeutics L: 4: 6-Z5H5-9ZPK-a (24)

Grid technique, Radiation, Therapeutics L: 4: 3-Z5-9n-a (14)

High energy, Radiation, Diagnosis L: 4: 3-Z5-Ze-a (6)

Moving field technique, Cobalt 60, Gamma ray, Therapeutics
L: 4: 6-Z54-CO60-9p-a (18)

Pendulum technique, Cobalt 60, Gamma ray, Therapeutics
L: 4: 6-Z54-CO60-9p2-a (20)

Rectangular, Field, X-ray, Therapeutics L: 4: 6-Z53,zM-a (15)

Rotation technique, X-ray, Therapeutics L: 4: 6-Z53-9p5-a (16)

Teletherapy, Cobalt 60, Gamma ray, Therapeutics, Malignant,
Tumour, Thorax L15: 4725: 6-Z54-CO60-9j-a (30)

Double contrast medium, X-ray, Diagnosis, Obst

Obstruction, Pyloric orifice, Child L9C,2482: 478: 3-Z53-z (A) (58)

Wound, Gastrointestinal tract L23Z: 477: 3-Z53-z(A) (36)

Ductless gland L6 (47-50)

Edema *See* Oedema

Efficiency, Non-metal, Filter, X-ray, Diagnosis L: 4: 3-Z53: 1562: a17 (7)

Ehrlich tumour L: 4725E (29)

Electron

synchrotron, Fast electron, Therapeutics L: 4: 6-Z5H5-9ZPK (24)

Therapeutics L: 4: 6-Z5H (23-24)

Malignant, Tumour, Breast, Female L9F,556: 4725: 6-Z5H (59)

Evacuation, X-ray, Diagnosis, Large intestine

L27: 4: 3-Z53-z8 (37)

Exit, Gonad, Dose distribution, High energy, Radiation, Diagnosis

L: 4: 3-Z5-Ze-t561-p (6)

Exposure

14 MeV, Neutron, Diagnosis L: 4: 3-Z5T-Ze14-zzA (12)

Intravenous, Injection

250 microcurie, Selenium 75, Gamma ray, Diagnosis, Pancreas
L293: 4: 3-Z54-SE75-9F250-636-zzA (41)

Neohydrin, 10 microcurie, Mercury 203, Gamma ray, Location,
Tumour, Brain L72: 472: 3-ZE-Z54-HG203-9F10-9e1-636-zzA (56)

meter, X-ray, Diagnosis L: 4: 3-Z53: 15,v6 (8)

External irradiation

Cobalt 60, Gamma ray, Therapeutics L4: 6-Z54-CO60-9h (17-20)

Malignant, Tumour, Thorax L15: 4725: 6-Z54-CO60-9h (30)

Linear accelerator, Electron, Therapeutics L: 4: 6-Z54-9ZPS-9h (23)

Strontium 90, Beta particle, Therapeutics L: 4: 6-Z5J-SR90-9h (25)

Therapeutics L: 4: 6-Z5-9h (14)

External irradiation (*Contd.*)

X-ray, Therapeutics L: 4: 6-Z53-9h (16)
 Ehrlich tumour L: 4725E: 6-Z53-9h (29)

Eye L185 (32-33)

Fast electron, Therapeutics L: 4: 6-Z5H5 (24)

Female L9F (59-61)

Field

High energy, X-ray, Therapeutics, Malignant, Tumour

L: 4725: 6-Z53-Ze-zA (28)

Superficial irradiation, Linear accelerator, Electron, Therapeutics

L: 4: 6-Z5H-9ZPS-9k-zA (23)

X-ray, Therapeutics L: 4: 6-Z53-zA (15)

Filter

Pendulum technique, Cobalt 60, Gamma ray, Therapeutics

L: 4: 6-Z54-CO60-9p2: 156 (19)

X-ray, Diagnosis L: 4: 3-Z53: 156 (7)

5-Fluorouracil, Combination with, X-ray, Therapeutics, Malignant,
 Tumour L: 4725: 6-Z53-pFU (26)

Forehead L182 (31)

Fractionated dose, Implant, Radium, X-ray, Therapeutics, Malignant,
 Tumour, Forehead L182: 4725: 6-Z53-RA-9a-z2 (31)

Functional disease

Lung L45: 45 (45)

Thyroid L65: 45 (49)

Gall bladder L292 (40)

Gamma ray

Diagnosis L: 4: 3-Z54 (11)

Brain L72: 4: 3-Z54 (53)

Heart L32: 4: 3-Z54 (42)

Kidney L61: 4: 3-1Z54 (47)

Pancreas L293: 4: 3-Z54 (41)

Spleen L62: 4: 3-Z54 (48)

Structural disease, Brain L72: 47: 3,Z54 (54)

Tumour, Liver L291: 472: 3-Z54 (39)

Differentiation, Jaundice L291: 453: 3-ZC-Z54 (38)

Location, Tumour, Brain L72: 472: 3-ZE-Z54 (56)

Palliation, Malignant, Tumour, Breast, Female

L9F,556: 4725: 6-ZE-Z54 (61)

Therapeutics L: 4: 6-Z54 (16-21)

Hyperthyroidism L65: 452: 6-Z54 (49)

- Gamma ray (Contd.)**
 Malignant, Tumour
 Breast, Female L9F,556:4725:6-Z54 (60)
 Retina, Nerve L74-18517:4725:6-Z54 (57)
 Thorax L15:4725:6-Z54 (30)
- Gamma ray scintillation camera, Scanning, Mercury 197, X-ray, Diagnosis
 L:4:3-Z53-HG197:2,n734 (10)
- Gastrointestinal tract L23Z (35-36)
- Genito-urinary system L5 (46)
 Female L9F,5 (59-61)
- Gold 198, Gamma ray
 Diagnosis, Kidney L61:4:3-Z54-AU198 (47)
 Therapeutics, Malignant, Tumour, Breast, Female
 L9F,556:4725:6-Z54-AU198 (60)
- Gonad, Dose distribution, High energy, Radiation, Diagnosis
 L:4:3-Z5-Ze-t561 (6)
- Grid technique, Radiation, Therapeutics L:4:6-Z5-9n (14)
- Head L18 (31-33)
- Heart L32 (42-43)
- Heterogeneous tissue, Influencing, Dose distribution, Teletherapy, Cobalt 60
 Gamma ray, Therapeutics, Malignant, Tumour, Thorax
 L15:4725:6-Z54-CO60-9j-a0gL1276 (30)
- High energy
 Electron, Therapeutics, Malignant, Tumour, Breast, Female
 L9F,556:4725:6-Z5H-Ze (59)
 Gamma ray, Palliation, Malignant, Tumour, Breast, Female
 L9F,556:4725:6-ZE-Z54-Ze (61)
 Neutron, Diagnosis L:4:3-Z5T-Ze (12)
 Particulate radiation, Therapeutics L:4:6-Z5A-Ze (22)
 Radiation, Diagnosis L:4:3-Z5-Ze (6)
 X-ray, Therapeutics, Malignant, Tumour
 L:4725:6-Z53-Ze (27-28)
- Hyperthyroidism L65:452 (49)
- Implant
 Radiation, Therapeutics L:4:6-Z5-9a (13)
 Radium, X-ray, Therapeutics, Malignant, Tumour, Forehead
 L182:4725:6-Z53-RA-9a (31)
- Inclined, Lateral, X-ray, Diagnosis, Gall bladder
 L242:4:3-Z53-zzh4 (40)

Inhalation

5 millicurie, Krypton 85, Gamma ray, Diagnosis, Heart

L42: 4: 3-Z54-KR85-9H5-4 (42)

Cyclotron, Oxygen 15, Positron, Diagnosis, Functional, Disease, Lung

L45: 45: 3-Z5M-O15-9ZPA-4 (45)

Injection

250 micro curie, Selenium 75, Gamma ray, Diagnosis, Pancreas

L293: 4: 3-Z54-SE75-9F250-6 (41)

Arsenic 74, Positron, Diagnosis, Tumour, Brain

L72: 472: 3-Z5M-AS74-6 (55)

Colloid, Gold 198, Gamma ray, Diagnosis, Kidney

L61: 4: 3-Z54-AU198-9Z5-6 (47)

Damaged, Blood cell, Chromium 51, Gamma ray, Diagnosis, Spleen

L62: 4: 3-Z54-CR51-9g54-6 (48)

Micropaque and Thorotrast, X-ray, Diagnosis, Wound, Gastro-intestinal tract

L23Z: 477: 3-Z53-z(M-T)-z6 (36)

Neohydrin, 10 micro curie, Mercury 203, Gamma ray, Location, Tumour, Brain

L72: 472: 3-ZE-Z54-HG203-9F10-9e1-6 (56)

Rose bengal

25 micro curie, Iodine 131, Gamma ray, Differentiation,

Jaundice L291: 453: 3-ZC-Z54-I131-9F25-9j1-6 (39)

50 micro curie, Iodine 131, Gamma ray, Diagnosis, Structural, Disease, Brain

L72: 47: 3-Z54-I131-9F50-9j1-6 (54)

Iodine 131, Gamma ray, Diagnosis, Tumour, Liver

L291: 472: 3-Z54-I131-9j1-6 (39)

Strontium 85, Gamma ray, Diagnosis

L: 4: 3-Z54-SR85-6 (11)

Instrument, Linear, Scanning, Radioisotope, Diagnosis

L: 4: 3-Z5-A: 2B,a (3)

Integral, Absorbed dose, Grid Technique, Radiation, Therapeutics

L: 4: 6-Z5-9n-n5 (14)

Interstitial

Colloid, 110 millicurie, Gold 198, Gamma ray, Therapeutics,

Malignant, Tumour, Breast, Female

L9F,556: 4725: 6-Z54-AU198-9H110-9Z5-9g (60)

Radon, Beta particle, Therapeutics, Tumour, Retina

L18517: 472: 6-Z5J-RN-9g (33)

Intra-arterial, Injection, Micropaque and Thorotrast, X-ray, Diagnosis,

Wound, Gastrointestinal tract L23Z: 477: 3-Z53-z(M-T)-z637 (36)

Intravenous, Injection

250 micro curie, Selenium 75, Gamma ray, Diagnosis, Pancreas

L293: 4: 3-Z54-SE75-9F250-636 (41)

Intravenous, Injection (Contd.)

Arsenic 74, Positron, Diagnosis, Tumour, Brain

L72: 472:3-Z5M-AS74-636 (55)

Damaged, Blood cell, Chromium 51, Gamma ray, Diagnosis, Spleen

L62: 4: 3-Z54-CR54-CR51-9g54-636 (48)

Neohydrin, 10 micro curie, Mercury 203, Gamma ray, Location,
Tumour, Brain

L72: 472: 3-ZE-Z54-HG203-9F10-9e1-636 (55)

Rose bengal

25 micro curie, Iodine 131, Gamma ray, Differentiation, Jaundice

L291: 453:3-ZC-Z54-I131-9F25-9j1-636 (38)

Iodine 131, Gamma ray, Diagnosis, Tumour, liver

L291: 472: 3-Z54-I131-9j1-636 (39)

Strontium 85, Gamma ray, Diagnosis

L: 4: 39Z54-SR85-636 (11)

Iodine 131, Gamma ray**Diagnosis**

Brain L72: 4: 3,Z54-I131 (53)

Structural, Disease, Brain L72: 47: 3,Z54-I131 (54)

Tumour, Liver L291: 472: 3,Z54-I131 (39)

Differentiation, Jaundice L291: 453: 3,ZC-Z54-I131 (38)

Therapeutics Hyperthyroidism L65: 452: 6,Z54-I131 (49)

Ionisation chamber, Measurement, Depth dose, Rotation technique, X-ray,
Therapeutics L: 4: 6-Z53-9p5-j: 3-c6F (16)

Isopaque, X-ray, Diagnosis, Salivary gland L216: 4: 3-Z53-z9I (34)

Jaundice L291: 453 (38)

Kidney L61 (47)

Krypton 85, Gamma ray, Diagnosis, Heart

L32: 4: 3-Z54-KR85 (42)

Large, Field, Superficial, Irradiation, Linear accelerator, Electron, Thera-
peutics L: 4: 6-Z5H-9ZPS-9k-zE (23)

Lateral, X-ray, Diagnosis, Gall bladder L292: 4: 3-Z53-zzh (40)

Large intestine L27 (37)

Lesion, Gastrointestinal tract L23Z: 477 (36)

Line, Rectilinear, Scanning, Radiation, Diagnosis

L: 4: 3-Z5: 2B4-22 (1)

Linear, Scanning

Radiation, Diagnosis L: 4: 3-Z5: 2B (1)

Radioisotope, Diagnosis L: 4: 3-Z5-A: 2B (3)

- Linear accelerator, Electron, Therapeutics L: 4: 6-Z5H-9ZPS (23)
- Liver L291 (38-39)
- Location, Tumour, Brain L72: 472: 3,ZE (56)
- Low energy, Radiation, Diagnosis, Structural, Disease, Nervous system
L7: 47: 3-Z5-Zb (51)
- Lung L45 (45)
- Lymphatic vessel L39 (44)
- Macaca, Case study, Scanning, Cerebrospinal fluid, Injection, Rose bengal,
50 micro curie, Iodine 131, Gamma ray, Diagnosis, Structural, Disease,
Brain L72: 47: 3-Z54-II131-9F50-9J1-6795: 2y7,ZR5 (54)
- Male genital organ L56 (46)
- Malignant, Tumour L: 4725 (26-29)
- Breast, Female L9F,556: 4725 (59-61)
- Forehead L182: 4725 (31)
- Retina, Nerve L74-18517: 4725 (57)
- Thorax L15: 4725 (30)
- Mask, Inhalation, 5 millicurie, Krypton 85, Gamma ray, Diagnosis, Heart
L32: 4: 3-Z54-KR85-9H5-945 (42)
- Masking
- Strontium 90, Beta particle, Therapeutics, Eye,
L185: 4: 6-Z5J-SR90: 155 (32)
- X-ray, Therapeutics, Malignant, Tumour
L: 4725: 6-Z53-Ze: 155 (27)
- Measurement *See also* Counting
- Measurement
- Abnormality, Structure, Prostate gland
L5661: 4711: 3,ZG (46)
- Depth dose, Rotation technique, X-ray, Therapeutics
L: 4: 6-Z53-9p5-j: 3 (16)
- Dose distribution
- Electron synchrotron, Fast electron, Therapeutics
L: 4: 6-Z5H5-9ZPK-a: 3 (18)
- Pendulum technique, Cobalt 60, Gamma ray, Therapeutics
L: 4: 6-Z54-CO60-9p2-a: 3 (20)
- Rectangular, Field, X-ray, Therapeutics
L: 4: 6-Z53-zM-a: 3 (15)
- Exist, Gonad, Dose distribution, High energy, Radiation, Diagnosis
L: 4: 3-Z5-Ze-t561-p: 3 (6)
- Integral, Absorbed dose, Grid technique, Radiation, Therapeutics
L: 4: 6-Z5-9n-n5: 3 (14)
- X-ray, Diagnosis L: 4: 3-Z53: 3 (9)

- Mercury 197, X-ray, Diagnosis L: 4: 3-Z53-HG197 (10)
- Mercury 203
 Compared with, Serum albumin, Iodine 131, Gamma ray, Diagnosis, Brain L72: 4: 3-Z54-I131-9g70-HG203 (53)
 Gamma ray, Location, Tumour, Brain
 L72: 472: 3-ZE-Z54-HG203 (56)
- Micropaque and Thorotrast, X-ray, Diagnosis, Wound, Gastrointestinal tract L23Z: 477: 3-Z53-z(M-T) (36)
- Microradiography, Intra-arterial, Injection, Micropaque and Thorotrast, X-ray, Diagnosis, Wound, Gastrointestinal tract
 L23Z: 477: 3-Z53-z(M-T)-z637: 5,nM (36)
- Modification, Stallar, Applicator, Cobalt 60, Gamma ray, Therapeutics, Malignant, Tumour, Retina, Nerve
 L74-18517: 4725: 6-Z54-CO60-zZ85 (57)
- Modulated line, Rectilinear, Scanning, Radiation, Diagnosis
 L: 4: 3-Z5: 2B4-221 (1)
- Mouse, Case study, Three times a week, Whole body irradiation, X-ray, Therapeutics, Ehrlich tumour L: 4725: 6-Z53-9v-z63y7,ZP2 (29)
- Mouth L21 (34)
- Moving field technique, Cobalt 60, Gamma ray, Therapeutics
 L: 4: 6-Z54-CO60-9p (18-20)
- Multiple, Dose, Interstitial, Colloid, 110 millicurie, Gold 108, Gamma ray, Therapeutics, Malignant, Tumour, Breast, Female
 L9F,556: 4725: 6-Z54-AU198-995-9g-z1Z (60)
- NaI crystal scintillation counter,
 Coincidence, Counting, Inhalation Cyclotron, Oxygen 15, Positron, Diagnosis, Functional, Disease,
 Lung L45: 45: 3-Z5M-O15-9ZPH-4: 3F-c4211 (45)
- Cylindrical scanning, Radioisotope, Diagnosis, Brain
 L72: 4: 3-Z5-A: 27,c4211 (52)
- Needle
 Radium, Gamma ray, Therapeutics L: 4: 6-Z54-RA-3 (21)
 Single plane, Implant, Radiation, Therapeutics
 L: 4: 69Z5-9b1-3 (13)
- Neohydrin
 10 microcurie, Mercury 203, Gamma ray, Location, Tumour Brain
 L72: 472:-3- ZE-Z54-HG203-9F10-9e1 (56)

Neohydrin (*Contd.*)

- Mercury 203, Compared with, Serum albumin, Iodine 131, Gamma ray, Diagnosis, Brain
L72: 4: 3-Z54-I131-9g70/HG203-9e1 (53)
- Nerve L74 (57)
- Nervous system L7 (51-57)
- Neutron, Diagnosis L: 4: 3-Z5T (12)
- Non-metal, Filter, X-ray, Diagnosis, L: 4: 3-Z53: 1562 (7)
- Obstruction, Pyloric orifice, Child L9C,2482:478 (58)
- Oedema, Lung, Untoward reaction, Ultra Fluid Lipiodol, X-ray, Diagnosis, Lymphatic Vessel L39: 4: 3-Z53-z9U: 44(L45: 485) (44)
- Orifice and valve, Stomach, Child L9C,248 (58)
- Organ, Dose distribution, High energy, Radiation, Diagnosis
L: 4: 3-Z5-Ze-t (6)
- Oxygen 15, Position, Diagnosis, Functional, Disease, Lung
L45: 45: 3-Z5M-O15 (45)
- Palliation, Malignant, Tumour, Breast, Female
L9F,556: 4725: 6-ZM (61)
- Pancreas L293 (41)
- Particle accelerator
 - Electron, Therapeutics L: 4: 6-Z5H-9ZP (23)
 - Fast electron, Therapeutics L: 4: 6-Z5H5-9ZP (24)
 - High energy, Electron, Therapeutics, Malignant, Tumour, Breast, Female
L9F,556: 4725: 6-Z5H-Ze-9ZP (59)
 - Oxygen 15, Positron, Diagnosis, Functional, Disease, Lung
L45: 45: 3-Z5M-O15-9ZP (45)
- Particulate radiation
 - Diagnosis L: 4: 3-Z5A (12)
 - Functional, Disease, Lung L45: 45: 3,Z5A (45)
 - Tumour Brain L72: 472: 3-Z5A (55)
 - Surgery, Basophilism, Pituitary L66: 47248: 6,ZQ-Z5A (50)
 - Therapeutics L: 4: 6-Z5A (22-25)
 - Eye L185: 4: 6-Z5A (32)
 - Malignant, Tumour, Breast, Female
L9F,556: 4725: 6-Z5A (59)
 - Tumour, Retina L18517: 472: 6-Z5A (33)
- Pendulum technique, Cobalt 60, Gamma ray, Therapeutics
L: 4: 6-Z54-CO60-9p2 (1920)

Phantom

Measurement, Dose distribution, Electron synchrotron, Fast Electron,
Therapeutics L: 4: 6-Z5H5-9ZPK-a: 3E (24)
X-ray, Diagnosis L: 4: 3-Z53: 3E (9)

Photoscan, 30 min, Exposure, Intravenous, Injection, 250 millicurie, Selenium
75, Gamma ray, Diagnosis, Pancreas
L293: 4: 3-Z54-SE75-9F250-9639-zzG30-2F (41)

Pituitary L66 (50)

Planar, Implant, Radiation, Therapeutics L: 4: 6-Z5-9b (13)

Plane, Interstitial, Radon, Beta particle, Therapeutics, Tumour, Retina
L18517: 472: 6-Z5J-RN-9g79 (33)

Pocket type, Ionization chamber, Measurement, Depth dose, Rotation
technique, X-ray, Therapeutics L: 4: 6-Z53-9p5-j: 3,c6FB (16)

Polaroid, Radiography, ^Llow energy, Radiation, Diagnosis, Structural
Disease, Nervous, System L7: 47: 3-Z5-Zb: 5,nR (51)

Polyethylene, Catheter, Isopaque, Contrast medium, Diagnosis, Salivary
gland L216: 4: 3-Z53-z9I-z3P (34)

Position, Teletherapy, Cobalt 60, Gamma ray, Therapeutics
L: 4: 6-Z54-CO60-9j-zza (17)

X-ray, Diagnosis, Calcification Heart,
L32: 481CA: 3-Z53-zza (43)

Positron, Diagnosis

Functional, Disease, Lung L45: 45: 3-Z5M (45)
Tumour, Brain L72: 472: 3-Z5M (55)

Pre-surgical, Multiple dose, Interstitial, Colloid, 110 millicurie, Gold 198,
Gamma ray, Therapeutics, Malignant, Tumour, Breast, Female
L9F,556: 4725: 6-Z54-AU198-99H110-995-9g-z1Z-zg-zb (60)

Prostate gland L5661 (46)

Proton, Surgery, Basophilism, Pituitary L66: 4728: 6,ZH-Z5S (50)

Pyloric orifice, Child L9C,2481 (58)

Radiation

Diagnosis L: 4: 3-Z5 (1-12)

Brain L72: 4: 3-Z5 (52-53)

Calcification, Heart L32: 481CA: 3-Z5 (43)

Functional, Disease, Lung L45: 45: 3-Z5 (45)

Gall bladder L292: 4: 3-Z5 (40)

Gastrointestinal tract L23Z: 4: 3-Z5 (35)

Heart L32: 4: 3 (42)

Kidney L61: 4: 3-Z5 (47)

Radiation (*Contd.*)

- Large intestine L27: 4: 3-Z5 (37)
- Lymphatic vessel L39: 4: 3-Z5 (44)
- Obstruction, Pyloric orifice, Child L9C,2482: 478: 3-Z5 (58)
- Pancreas L293: 4: 3-Z5 (61)
- Salivary gland L216: 4: 3-Z5 (34)
- Spleen L62: 4: 3-Z5 (48)
- Structural, Disease
 - Brain L72: 47: 3-Z5 (54)
 - Nervous system L7: 47: 3-Z5 (51)
- Tumour
 - Brain L72: 472: 3-Z5 (55)
 - Liver L291: 472: 3-Z5 (39)
 - Wound, Gastrointestinal tract L23Z: 477: 3-Z5 (36)
- Differentiation, Jaundice L291: 453: 3-ZC-Z5 (38)
- Location, Tumour, Brain L72: 472: 3-ZE-Z5 (56)
- Palliation, Malignant, Tumour, Breast, Female
L9F,556: 4725: 6,ZE-Z5 (61)
- Size, Measurement, Abnormality, Prostate gland
L5661: 4711: 3,ZG1-Z5 (46)
- Surgery, Basophilism, Pituitary L66: 47248: 6,ZQ (50)
- Therapeutics L: 4: 6-Z5 (13-25)
 - Eye L185: 4: 6-Z5 (32)
 - Hyperthyroidism L65: 452: 6-Z5 (49)
 - Malignant, Tumour L: 4725: 6-Z5 (26-28)
 - Breast, Female L9F,556: 4725: 6-Z5 (59-60)
 - Retina L18517: 472: 6-Z5 (33)
 - Nerve L74-18517: 4725: 6-Z5 (57)

Radiation incidence

- Field, High energy, X-ray, Therapeutics, Malignant, Tumour
L: 4725: 6-Z53-Ze-zZa: 15 (28)
- High energy, X-ray, Therapeutics, Malignant, Tumour
L: 4725: 6-Z53-Ze: 15 (27)
- Pendulum technique, Cobalt 60, Gamma ray, Therapeutics
L: 4: 6-Z54-CO60-9p2: 15 (19)
- Strontium 90, Beta particle, Therapeutics, Eye
L185: 4: 6-Z5J-SR90: 15 (32)
- X-ray, Diagnosis L: 4: 3-Z53: 15 (7-8)

Radiography

- 3 to 15 min, Exposure, 14 MeV, Neutron, Diagnosis
L: 4: 3-Z5T-Ze14-zzG3-15: 5,n (12)
- Low energy, Radiation, Diagnosis, Structural, Disease, Nervous
system L7: 47: 3-Z5-Zb: 5,n (51)
- Scanning, Mercury 197, X-ray, Diagnosis
L: 4: 3-Z53-HG197: 2n (10)

Radiography (*Contd.*)

X-ray, Diagnosis, Gastrointestinal tract

L23Z: 4: 3-Z53: 5,*n* (35)

Radioisotope

Beta particle, Therapeutics

Disease, Eye L185: 4: 6-Z5J-A (32)

Tumour, Retina L18517: 472: 6-Z5J-A (33)

Diagnosis L: 4: 3-Z5-A (2-5)

Brain L72: 4: 3-Z5-A (52)

Gamma ray, Diagnosis L: 4: 3-Z54-A (11)

Brain L729 4: 3-Z54-A (53)

Heart L32: 4: 3-Z64-A (42)

Kidney L61: 4: 3-Z54-A (47)

Pancreas L293-4: 3-Z54-A (41)

Spleen L62: 4: 3-Z54-A (48)

Structural, Disease, Brain L72: 47: 3-Z54-A (54)

Tumour, Liver L291: 472: 3-Z54-A (39)

Gamma ray, Differentiation, Jaundice

L291: 453: 3-ZC-Z54-A (28)

Gamma ray, Location, Tumour, Brain

L72: 472: 3-ZE-Z54-A (56)

Gamma ray, Therapeutics L: 4: 6-Z54-A (17-21)

Hyperthyroidism L65: 452: 6-Z54-A (49)

Malignant, Tumour

Thorax L15: 4725: 6-Z54-A (30)

Retina, Nerve L74-18517: 4725: 6-Z54-A (57)

Position, Diagnosis

Functional, Disease, Lung L45: 45: 3-Z5M-A (45)

Tumour, Brain L72: 472: 3-Z5M-A (55)

Therapeutics, Malignant, Tumour, Breast, Female

L9F,556L 4725: 6-Z54-A (60)

X-ray, Diagnosis L: 4: 4-Z53-A (10)

Radium

Gamma ray, Therapeutics, Medicine L: 4: 6-Z54-RA (21)

X-ray, Therapeutics, Malignant, Tumour, Forehead

L182: 4725: 6-Z53-RA (31)

Radon, Beta particle, Therapeutics, Tumour, Retina

L18517: 472: 6-Z5J-RN (33)

Recording

3 to 15 min, Exposure, 14 Mev, Neutron, Diagnosis

L: 4: 3-Z5T-Ze14-zzG3-15: 5 (12)

Decubitus, X-ray, Diagnosis, Calcification, Heart

L32: 481CA: 3-Z53-zzc: 5 (43)

Intra-arterial, Injection, Micropaque and Thorotrast, X-ray,

Diagnosis, Wound, Gastrointestinal tract

L23Z:477: 3-Z53-z(M-T)-z637: 5 (36)

Recording (Contd.)

Low energy, Radiation, Diagnosis, Structural, Disease, Nervous system L7: 47: 3-Z5-Zb: 5 (51)

X-ray, Diagnosis, Gastrointestinal tract L23Z: 4: 3-Z53: 5 (35)

Rectangular, Field, X-ray, Therapeutics L: 4: 6-Z53-zM (15)

Rectilinear, Scanning, Radiation, Diagnosis L: 4: 3-Z5: 2B4 (1)

Refrigerated, Brain, Macaca, Case study, Scanning, Cerebrospinal fluid, Injection, Rose bengal, 50 micro curie, Iodine 131, Gamma ray, Diagnosis, Structural, Disease, Brain

L72: 47: 3-Z54-I131-9F50-9j1-9795: 2y7-ZR5,72-C45 (54)

Respiratory system L4 (45)

Retina L18517 (33)

Nerve L74-18517 (57)

Rose bengal

25 microcurie, Iodine 131, Gamma ray, Differentiation, Jaundice
L291: 453: 3-ZC-Z54-I131-9F25-9j1 (3S)

50 microcurie, Iodine 131, Gamma ray, Diagnosis, Structural, Disease, Brain L72: 47: 3-Z54-I131-9F50-9j1 (54)

Iodine 131, Gamma ray, Diagnosis, Tumour, Liver
L291: 472: 3-Z54-I131-9j1 (39)

Rotation technique, X-ray, Therapeutics L: 4: 6-Z5-9p5 (16)

Salivary gland L216 (34)

Scanning

3 to 5 hours, Exposure, Intravenous, Injection, Neohydrin, 10 microcurie, Mercury 203, Gamma ray, Location, Tumour, Brain
L72: 472: 3-ZE-ZE4-HG203-9F10-9e1-9631-zzF3-5: 2 (56)

30 min, Exposure, Intravenous, Injection, 250 microcurie, Selenium 75, Gamma ray, Diagnosis, Pancreas
L293: 4: 3-Z54-SE74-9F250-636-zzG30: 2 (45)

Cerebrospinal fluid, Injection, Rose bengal, 50 microcurie, Iodine 131, Gamma ray, Diagnosis, Structural, Disease, Brain
L72: 47: 3-Z54-I131-9F60-9j1-6795: 2 (54)

Injection, Colloid, Gold 198, Gamma ray, Diagnosis, Kidney
L61: 4: 3-Z54-AU198-9Z5-6: 2 (47)

Intravenous, Injection

Arsenic 74, Positron, Diagnosis, Tumour, Brain
L72: 472: 3-Z5M-A574-636: 2 (55)

Damaged, Blood cell, Chromium 51, Gamma ray, Diagnosis, Spleen L62: 4: 3-Z54-CR51-9g54-536: 2 (48)

Rose bengal

25 micro curie, Iodine 131, Gamma ray, Differentiation, Jaundice
L291: 453: 3-ZC-Z54-I131-9F25-9j1-636: 2 (38)

Scanning (*Contd.*)

- Iodine 131, Gamma ray, Diagnosis, Tumour, Liver
L291:472:3-Z54-I131-9j1-636:2 (39)
- Strontium 85, Gamma ray, Diagnosis
L:4:3-Z54-SR85-636:2 (11)
- Mask, Inhalation, 5 millicurie, Krypton 85, Gamma ray, Diagnosis,
Heart L32:4:3-Z54-KR85-9H5-945:2 (42)
- Mercury 197, X-ray, Diagnosis L:4:3-Z53-HG197:2 (10)
- Radiation, Diagnosis L:4:3-Z5:2 (1)
- Radioisotope, Diagnosis L:4:3-Z5-A:2 (2-4)
- Brain L72:4:3-Z5-A:2 (52)
- Scintillation, Camera, Scanning, Mercury 197, X-ray, Diagnosis
L:4:3-Z53-HG197-2, n73 (10)
- Scintillation, Counter
- Coincidence, Counting, Inhalation, Cyclotron, Oxygen 15, Positron,
Diagnosis, Functional, Disease, Lung
L45:45:3-Z5M-O15-9ZPH-94:3F,c4 (45)
- Cylindrical, Scanning, Radioisotope, Diagnosis, Brain
L72:4:3-Z5-A:27,c4 (52)
- Scanning
- Injection, Colloid, Gold 198, Gamma ray, Diagnosis, Kidney
L61:4:3-Z54-AU198-9Z5-6;2,c4 (47)
- Intravenous, Injection, Rose bengal, 25 micro curie, Iodine 131,
Gamma ray, Differentiation, Jaundice
L291:453:3-ZC-Z54-I131-9F25-9j1-9636:2,c42 (38)
- Mask, Inhalation, 5 millicurie, Krypton 85, Gamma ray,
Diagnosis, Heart L32:4:3-Z54-KR85-9H5-945:2,c42 (42)
- Second dose, Iodine 131, Gamma ray, Therapeutics, Hyperthyroidism
L65:452:6-Z54-I131-zz2 (49)
- Section, Scanning, Radioisotope, Diagnosis L:4:3-Z5-A:2C (4)
- Selenium 75, Gamma ray, Diagnosis, Pancreas L293:4:3-Z54-SE75 (41)
- Serum albumin, Carrier, Iodine 131, Gamma ray, Diagnosis, Brain
L72:4:3-Z54-I131-9g7 (53)
- Shielding *See* Masking
- Single plane, Implant, Radiation, Therapeutics L:4:6-Z5-9b1 (13)
- Size, Measurement, Abnormality, Prostate gland
L5661:4711:3-ZG1 (46)
- Source
- Electron, Therapeutics L:4:6-Z5H-9ZA (23)
- Fast, Electron, Therapeutics L:4:6-Z5H5-9ZA (24)
- High energy, Electron, Therapeutics, Malignant, Tumour, Breast,
Female L9F,556:4725:6-Z5H-Ze-9ZA (59)

Source (Contd.)

- Oxygen 15, Positron, Diagnosis, Functional, Disease, Lung
L45: 45: 3-Z5M-O15-9ZA (45)
- Spleen L62 (48)
- Stallar, Applicator, Cobalt 60, Gamma ray, Therapeutics, Malignant, Tumour,
Retina, Nerve L74-18517: 4725: 6-Z54-CO60-8S (57)
- Stereoscope, Scanner, Section, Scanning, Radioisotope, Diagnosis,
L: 4: 3-Z5-A: 2C,c3 (4)
- Stomach, Child L9C,24 (58)
- Strontium 85, Gamma ray, Diagnosis L: 4: 3-Z54-SR85 (11)
- Strontium 90, Beta particle, Therapeutics L: 4: 6-Z5J-SR90 (25)
Eye L185: 4: 6-Z5J-SR90 (32)
- Stroboscope, Tomography, Decubitus, X-ray Diagnosis, Calcification,
Heart L32: 481CA: 3-Z53-zzc: 5,nF2 (43)
- Structural, Disease L: 47 (26-29)
Brain L72: 47 (54-56)
Breast, Female L9F,556: 47 (59-61)
Forehead L182:47 (31)
Gastrointestinal tract L23Z: 47 (36)
Liver L291: 47 (39)
Nervous system L7: 47 (51)
Pituitary L66: 47 (50)
Pyloric orifice, Child L9C,2482: 47 (58)
Retina, Nerve L74-18516: 47 (57)
Thorax L15: 47 (30)
- Superficial, Irradiation, Linear accelerator, Electron, Therapeutics
L: 4: 6-Z5H-9ZPS-9h (23)
- Surgery, Basophilism, Pituitary L66: 47248: 6-ZH (50)
- Teletherapy, Cobalt 60, Gamma ray L: 4: 6-Z54-CO60-9j (17-20)
Malignant, Tumour, Thorax L15: 4725: 6-Z54-CO60-9j (30)
- Television, Data presentation, Radioisotope, Diagnosis
L: 4: 3-Z5-A: 7,p (5)
- Therapeutics L: 4: 6 (13-25)
Basophilism, Pituitary L66: 47248: 6 (50)
Ehrlich tumour L: 4725E: 6 (29)
Eye L185: 4: 6 (32)
Hyperthyroidism L65: 452: 6 (49)
Malignant, Tumour L: 4725: 6 (26-28)
Breast, Female L9F,556: 4725: 6 (59-61)
Forehead L182: 4725: 6 (31)

Therapeutics (Contd.)

- Retina, Nerve L74-18517: 4725: 6 (57)
 Thorax L15: 4725: 6 (30)
 Tumour, Retina L18517: 472: 6 (33)
- Thorax L15 (30)
- Thorothrast and Micropaque, X-ray, Diagnosis, Wound, Gastro-intestinal tract L23Z: 477: 3-Z53-z(M-T) (36)
- Three times a week, Whole body irradiation, X-ray, Therapeutics-Ehrlich tumour L: 4725E: 6-Z53-9v-z63 (29)
- Thyroid L65 (49)
- Tissue, Influencing, Dose distribution, Teletherapy, Cobalt 60, Gamma ray, Therapeutics, Malignant, Tumour, Thorax L15: 4725: 6-Z54-CO60-9j-a0g L12 (30)
- Tomography, Decubitus, X-ray, Diagnosis, Calcification, Heart L32: 481CA: 3-Z53-zzC: 5,nF (43)
- Tumour L: 472 (25-29)
 Brain L72: 472 (55-56)
 Breast, Female L9F,556: 472 (59-61)
 Forehead L182: 472 (31)
 Liver L291: 472 (39)
 Pituitary L66: 472 (50)
 Retina L18517: 472 (33)
 Nerve L74-18517: 472 (57)
 Thorax L15: 472 (30)
- Ultra Fluid Lipiodol, X-ray, Diagnosis, Lymphatic vessel L39: 4: 3-Z53-z9U (44)
- Untoward reaction
 5-Fluorourcil, Combination with, X-ray, Therapeutics, Malignant, Tumour L: 4: 6-Z53-pFU: 44 (26)
 Ultra Fluid Lipiodol, X-ray, Diagnosis, Lymphatic vessel L39: 4: 3-Z53-z9U: 44 (44)
- Wedge filter, Pendulum technique, Cobalt 60, Gamma ray, Therapeutics L: 4: 6-Z54-CO60-9p2: 156D (19)
- Whole body, Irradiation
 Strontium 90, Beta particle, Therapeutics L: 4: 6-Z5J-SR90-9v (25)
 X-ray, Therapeutics, Ehrlich tumour L: 4725E: 6-Z53-9v (29)
- Whole body, Scanning, Intravenous, Injection, Strontium 85, Gamma ray, Diagnosis L: 4: 3-Z54-SR85-636: 2H (11)
- Wound, Gastrointestinal tract L23Z: 477 (36)

X-ray

- Diagnosis** L: 4: 3-Z53 (7-10)
 - Calcification, Heart L32: 481CA: 3-Z53 (43)
 - Gall bladder L292: 4: 3-Z53 (40)
 - Gastrointestinal tract L23Z: 4: 3-Z53 (35)
 - Large intestine L27: 4: 3-Z53 (37)
 - Lymphatic vessel L39: 4: 3-Z53 (44)
 - Obstruction, Pyloric orifice, Child L9C,2482: 478: 3-Z53 (58)
 - Salivary gland L216: 4: 3-Z53 (34)
 - Wound, Gastrointestinal tract L23Z: 477: 3-Z53 (36)
 - Size, Measurement, Abnormality, Prostate gland
 - L5661: 4711: 3-ZG1-ZZ53 (46)
 - Therapeutics L: 4: 6-Z53 (15-16)
 - Ehrlich tumour L: 4725E: 6-Z53 (29)
 - Malignant, Tumour L: 4725: 6-Z53 (26-28)
 - Forehead L182: 4725: 6-Z53 (31)

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L MEDICINE

L: 4: 3 Disease, Diagnosis

L: 4: 3-Z5: 2 Radiation, Scanning

L: 4: 3-Z5: 2B4 Rectilinear

L: 4: 3-Z5: 2B4-221 Diagnosis, Radiation, Scanning, Rectilinear, Modulated line

- 1 N64 BOGARDUS (C R) (Jr) and GYDESEN (F R). Modulated line scanning. A new method. (Radiology. 83; 1964; 917-25).

L: 4: 3,Z5 Disease, Diagnosis, Radiation

L: 4: 3-Z5-A: 2 Diagnosis, Radioisotope, Scanning

- 2 p77N63 KNISELEY (R M), ANDREWS (G A), and HARRIS (C C), *Ed.* Progress in medical radioisotope scanning. (TID-7673; 1963).

L: 4: 3-Z5-A: 2B SCANNING, LINEAR

L: 4: 3-Z5-A: 2B,a Diagnosis, Radioisotope, Scanning, Linear, Instrument

- 3 N63 ROSS (D A). Linear scanning. (TID-7673; 1963; 190-204)-
L: 4: 3-Z5-A: 2C SCANNING, SECTION

L: 4: 3-Z5-A: 2C,c3 Diagnosis, Radioisotope, Scanning, Section. Stereoscope scanner

- 4 N63 KUHLE (D E) Section scanning for image separation. (TID-7673; 1963; 171-89)

- L: 4: 3-Z5-A: 7 DATA PRESENTATION
 L: 4: 3-Z5-A: 7,p1 Diagnosis, Radiolotope, Data presentation-
 Television, Closed circuit
- 5 N63 BENDER (M A) and BLAU (M). Data presentation in radio-
 isotope scanning. (TID-7673: 1963; 105-10).
- L: 4: 3-Z5-Ze DIAGNOSIS, RADIATION, HIGH ENERGY
 L: 4: 3-Z5-Ze-t561-p DOSE DISTRIBUTION, GONAD, EXIT
 L: 4: 3,Z5-Ze-t561-p: 3 Diagnosis, Radiation, High energy, Dose
 distribution, Gonad, Exit, Measurement
- 6 N63 BOESCHE (H) and ROLAND (S). Gonad dosimetry in dia-
 gnostic radiology with the high voltage technique. (Acta
 radiol (Therap), New ser. 1; 1963; 351-62).
- L: 4: 3-Z53 Diagnosis, X-ray
 L: 4: 3-Z53: 14 EQUIPMENT SET UP
 L: 4: 3-Z53: 1562 INCIDENCE, FILTER, NON-METAL
 L: 4: 3-Z53: 1562;a17 Diagnosis, X-ray, Incidence, Filter, Non-
 metal, Efficiency
- 7 N61 DOUGLAS (J J). Re-évaluation and application of interposed
 non-metallic filters in diagnostic radiology. (J MRD
 Assoc Georgia. 50; 1961; 541-3).
- L: 4: 3-Z53 DIAGNOSIS, X-RAY
 L: 4: 3-Z53: 15,v6 INCIDENCE, EXPOSURE METER
 L: 4: 3-Z53: 15,v6;j5,n745 Diagnosis, X-ray, Incidence, Exposure
 meter, in relation to, Cinefluoroscope
- 8 N64 HALE (J) and GEORGE (D L). Physical factors in cinefluoro-
 graphy. Exposure meter and phantom materials. (Amer
 j roent. 92; 1964; 1188-91).
- L: 4: 3-Z53: 3 DIAGNOSIS, X-RAY, MEASUREMENT
 L: 4: 3-Z53: 3E0j5,n745 Diagnosis, X-ray, Measurement, phan-
 tom, in relation to, Cinefluoroscope
- 9 N64 HALE (J) and GEORGE (D L). Physical factors in cinefluoro-
 graphy. Exposure meter and phantom materials. (ibid),
- L: 4: 3-Z53-HG197 DIAGNOSIS, X-RAY, MERCURY 197
 L: 4: 3-Z53-HG197: 2,n734 Diagnosis, X-ray, Mercury 197,
 Scanning, Gamma ray scintillation camera.
- 10 N64 HERSZBERG (B), BRESSON (Y), and KELLERSHOH(C.d) X-
 radiography with mercury 197. (Brit j radiol. 37; 1964;
 928-37).
- L: 4: 3-Z54-SR85 Diagnosis, Gamma ray, Strontium 85
 L: 4: 3-Z54-SR85-636 INJECTION, INTRAVENOUS
 L: 4: 3-Z54-SR85-636: 2H Diagnosis, Gamma ray, Strontium
 85, Injection, Intravenous, Scanning, Whole body

- 11 N63 SIMPSON (W J) and BAKER (R G). Total body scanning (TID-7673; 1963; 205-35).

L: 4:3-Z5T-Ze14 Diagnosis, Neutron, 14 MeV

L: 4:3-Z5T-Ze14-zzG3→15 EXPOSURE, 3 TO 15 MIN

L: 4:3-Z5T-Ze14-zzG3 15:→5,n Diagnosis, Neutron, 14 MeV, Exposure, 3 to 15 min, Radiography

- 12 N64 ANDERSON (J) and others. Neutron radiography in man. (Brit j radiol. 37; 1964; 957-9).

L: 4:6-Z5 Therapeutics, Radiation

L: 4:6-Z5-9b1 IMPLANT, SINGLE PLANE

L: 4:6-Z5-9b1-3 Therapeutics, Radiation, Implant, Single plane, Needle

- 13 N64 HOWELLS (R). Single plane implants using needles of the same uniform linear activity. (Brit j radiol. 37; 1964; 844-6).

L: 4:6-Z5 THERAPEUTICS, RADIATION

L: 4:6-Z5-9n-n5 GRID TECHNIQUE, ABSORBED DOSE, INTEGRAL

L: 4:6-Z5-9n-n5:3 Therapeutics, Radiation, Grid technique, Absorbed dose, Integral, Measurement

- 14 143N63 MAMIN (R G). On the computation of the integral absorbed dose of irradiation through a grid. (Med radiol. (Mosk) 8; 1963 Oct; 52-7].

L: 4:6-Z53 Therapeutics, X-ray

L: 4:6-Z53-zM FIELD, RECTANGULAR

L: 4:6-Z53-zM-a:3 Therapeutics, X-ray, Field, Rectangular, Dose distribution, Measurement

- 15 N64 EMMETT (M L). Calculation of dose distributions for rectangular X- and gamma ray fields. (Brit j radiol. 37; 1964; 444-57).

L: 4:6-Z53-9p5 Therapeutics, X-ray, Rotation technique

L: 4:6-Z53-9p5-j:3 DEPTH DOSE, MEASUREMENT *

L: 4:6-Z-53-9p5-j:3,c6FB Therapeutics, X-ray, Rotation technique, Depth dose, Measurement, Ionization chamber, Pocket type

- 16 N64 TAKAHASHI (Y). Determination of depth dose in roentgen rotation therapy using the ionization pocket chamber. (Nippon acta radiol. 24; 1964; 34-6).

L: 4:6-Z54-CO60 Therapeutics, Gamma ray, Cobalt 60

L: 4:6-Z54-CO60-9j TELETHERAPY

L: 4:6-Z54-CO60-9j-zza Therapeutics, Gamma ray, Cobalt 60, Teletherapy, Position

- 17 N63 HEINZEL (F) and others. Some remarks about localisation and positioning technique in telecobalt therapy. (*Medica mundi.* 9; 1963; 5-8).
- L:4:6-Z54-CO60 Therapeutics, Gamma ray, Cobalt 60
L:4:6-Z54-CO60-9p MOVING FIELD TECHNIQUE
L:4:6-Z54-CO60-9p-a:3 Therapeutics, Gamma ray, Cobalt 60, Moving field technique, Dose distribution, Measurement
- 18 N63 GEDIN (J Van de). Dose distribution in moving beam cobalt 60 teletherapy. A generalised calculation method. (*Brit. j radiol.* 36; 1963; 879-85).
- L:4:6-Z54-CO60 THERAPEUTICS, GAMMA RAY, COBALT 60
L:4:6-Z54-CO60-9p2 Pendulum Technique
L:4:6-Z54-CO60-9p2:15 EQUIPMENT SET UP, RADIATION INCIDENCE
L:4:6-Z54-CO60-9p2:156D Therapeutics, Gamma ray, Cobalt 60, Pendulum technique, Wedge filter
- 19 121N64 DALLA PALMA (L) and others. Use of wedge filters and tangential pendulum movement in telecobalt therapy. (*J belg radiol.* 47; 1964; 585-610).
- L:4:6-Z54-CO60 THERAPEUTICS, GAMMA RAY, COBALT 60
L:4:6-Z54-CO60-9p2 PENDULUM TECHNIQUE
L:4:6-Z54-CO60-9p2-a:3 Therapeutics, Gamma ray, Cobalt 60, Pendulum technique, Dose distribution, Measurement.
- 20 113N63 SCHOKNECHT (G). Calculation of distribution in tangential pendulum irradiation with CO60. (*Strahlenrapie.* 122; 1963; 341-8).
- L:4:6-Z54-RA THERAPEUTICS, GAMMA RAY, RADIUM
L:4:6-Z54-RA-3 Therapeutics, Gamma ray, Radium, Needle
- 21 N63 BARBER (B). New type of needle for use or radium surface applicators. (*Brit j radiol.* 36; 1963; 774-5).
- L:4:6-Z5A-Ze Therapeutics, Particulate radiation, High energy
- 22 N64 FUTURE OF particle radiation in man. (*JAMA.* 187; 1964; 56-7)
- L:4:6-Z5H Therapeutics, Electron
L:4:6-Z5H-9ZPS SOURCE, LINEAR ACCELERATOR
L:4:6-Z5H-9ZPS-9k SUPERFICIAL IRRADIATION
L:4:6-Z5H-9zPS-9k-zE Therapeutics, Electron, Source, Linear accelerator, Superficial irradiation, Large field
- 23 N64 KARZMARK (J). Large-field superficial electron therapy with linear accelerators. (*Brit j radiol.* 37; 1964; 302-5).

- L: 4:6-Z5H5 Therapeutics, Fast electron
 L: 4:6-Z5H5-9ZPK SOURCE, ELECTRON SYNCHROTRON
 L: 4:6-Z5H5-9ZPK-a:3 DOSE DISTRIBUTION, MEASUREMENT
 L: 4:6-Z5H5-9ZPK-a:3E Therapeutics, Fast electron, Source,
 Electron synchrotron, Dose distribution, Measurement, Phantom
- 24 113N63 BREITLING (G) and VOGEL (K-H). Dose distribution in the irradiation of inhomogeneous media with fast electrons. (Strahlentherapie. 122; 1963; 321-40).
- L: 4:6-Z5J-SR90 THERAPEUTICS, BETA PARTICLE, STRONTIUM 90
 L: 4:6-Z5J-SR90-9v Therapeutics, Beta particle, Strontium 90, Whole body irradiation
- 25 N64 HAYBITTLE (J L). A 24 curie strontium 90 unit for whole body superficial irradiation with beta rays. (Brit j radiol. 37; 1964; 297-301).
- L: 4725:6-Z53 Tumour, Malignant, Therapeutics, X-ray
 L: 4725:6-Z53-pFU Combined with, 5-FLUOROURACIL (FU)
 L: 4725:6-Z53-pFU:44 Tumour, Malignant, Therapeutics, X-ray, Combined with, 5-Fluorouracil, Untoward reaction
- 26 N63 OTTOMAN (R E) and others. Side effects of combined radiation and chemotherapy in the treatment of malignant tumours. (Radiology. 81; 1963; 1014-7).
- L: 4725:6-Z53 TUMOUR, MALIGNANT, THERAPEUTICS, X-RAY
 L: 4725:6-Z53-Ze:15 HIGH ENERGY, RADIATION INCIDENCE
 L: 4725:6-Z53-Ze:155 Tumour, Malignant, Therapeutics, X-ray, Masking
- 27 N64 SMEDAL (M I) and others. Megavolt radiation therapy of cancer: Some aspects of field shaping and protection of vital structures. (*Ibid*).
- L: 4725:6-Z53 TUMOUR, MALIGNANT, THERAPEUTICS, X-RAY
 L: 4725:6-Z53-Ze-zA HIGH ENERGY, FIELD
 L: 4725:6-Z53-Ze-zA:15 Tumour, Malignant, Therapeutics, X-ray, High energy, Field, Equipment set up, Radiation incidence
- 28 N64 SMEDAL (M I) and others. Megavolt radiation therapy of cancer: Some aspects of field shaping and protection of vital structures. (Lahey clin bul. 13; 1964; 121-7).
- L: 4725E:6-Z53 Ehrlich tumour, Therapeutics, X-ray
 L: 4725E:6-Z53-9v-z63 WHOLE BODY IRRADIATION, THREE TIMES/WEEK
 L: 4725E:6-Z53-9v-z63y7,ZP2 Ehrlich tumour, Therapeutics, X-ray, Whole body irradiation, Three times week, Mouse

- 29 N64 SROV (M R), COOK (B B), and LOFSTROM (J. E). Effect of total body irradiation on the response of transplanted mouse tumours to fractionated local radiotherapy. (Radiology. 83; 1964; 807-15).
- L15:4725:6 THORAX, TUMOUR, MALIGNANT, THERAPEUTICS
 L15:4725:6-Z54-CO60-9j Gamma ray, Cobalt 60, Teletherapy
 L15:4725:6-Z54-CO60-9j-a0gL1276 DOSE DISTRIBUTION, Influenced by, HETEROGENEOUS TISSUE
 L15:4725:6-Z54-CO60-9j-a0gL1276,a18 Thorax, Tumour, Malignant, Therapeutics, Gamma ray, Cobalt 60, Teletherapy, Dose distribution, influenced by, Heterogenous tissue, Correction factor
- 30 N63 CIRLA (A) and others. Calculation of the correction for differences in density of tissue in cobalt teletherapy of intrathoracic neoplasms. (Radiobiol radioter fis med. 18; 1963; 100-23).
- L182:4725:6 Forehead, Tumour, Malignant, Therapeutics
 L182:4725:6-Z53-RA-9a X-RAY RADIUM, IMPLANT
 L182:4725:6-Z53-RA-9a-z2 Forehead, Tumour, Malignant, Therapeutics, X-ray, Radium, Implant, Fractionated dose
- 31 121N63 BONI (R). Radium implants in extensive malignant tumours of the forehead and scalp and spatial fractionation of the dose, at successive intervals. (Omnia med. 41; 1963; 327-41).
- L185:4:6 Eye, Disease, Therapeutics
 L185:4:6-Z5J-SR90 BETA PARTICLES, STRONTIUM 90
 L185:4:6-Z5J-SR90:155 Eye, Disease, Therapeutics, Beta particles, Strontium 90, Masking
- 32 113N62 VOLLMAR (R). Possibilities of shielding of sensitive portions of the eye during beta irradiation. (Radiobiol radio therap. 3; 1962; 133-42).
- L18517:472:6 Retina, Tumour, Therapeutics
 L18517:472:6-Z5J-RN-9g BETA PARTICLES, RADON, INTERSTITIAL
 L18517:472:6-Z5J-RN-9g-zZ6 Retina, Tumour, Therapeutics, Beta particles, Radon, Interstitial, Plaque
- 33 N63 FINGERHUT (A G). Local treatment of retinal tumours with radon. (Radiology. 81; 1963; 1003-7).
- L216:4:3 Salivary gland, Disease, Diagnosis
 L216:4:3-Z53-z9I X-RAY, CONTRAST MEDIUM, ISOPAQUE
 L216:4:3-Z53-z9I-z3P Salivary gland, Disease, Diagnosis, Contrast medium, Isopaque, Catheter, Polyethylene

- 34 N64 DREVATINE (T) and others. Sialography by means of a polyethylene catheter and water-soluble contrast medium (Isopaque 75%). (Brit j radiol. 37; 1964; 317-21).
- L23Z: 4: 3 Gastrointestinal tract, Disease, Diagnosis
 L23Z: 4: 3-Z53: 5,n X-RAY, RADIOGRAPHY
 L23Z: 4: 3-Z53: 5,nOm745 Gastrointestinal tract, Disease, Diagnosis, X-ray, Radiography, compared with, Cineradiography
- 35 N64 STAPLE (T W) and MARGULIS (A R). Diagnostic accuracy in cine-roentgenographic examination of the upper gastrointestinal tract. A comparative study of cine and conventional roentgenography in 103 patients. (Radiology. 82; 1964; 895-7).
- L23Z: 477: 3 Gastrointestinal tract, Wound, Diagnosis
 L23Z: 477: 3-Z53-z(A) X-RAY, DOUBLE CONTRAST MEDIUM
 L23Z: 477: 3-Z53-z(M-T) Micropaque and Thorotrast
 L23Z: 477: 3-Z53-z(M-T)-z637 INJECTION, INTRA-ARTERIAL
 L23Z: 477: 3-Z53-z(M-T)-z637: 5,nM Gastrointestinal tract-Wound, Diagnosis, X-ray, Double contrast medium, Micropaque and Thorotrast, Injection, Intra-arterial, Microradiography.
- 36 N64 SPJUT (H J) and others. Microangiographic study of gastrointestinal lesion. (Amer j roent. 92; 1964; 1172-87).
- L27: 4: 3 LARGE INTESTINE, DISEASE, DIAGNOSIS
 L27: 4: 3-Z53-z8y7 Large intestine, Disease, Diagnosis, X-ray, Evacuation, Case study
- 37 N63 SOLIA (P) and others. Comparative study of different methods of evacuation of the large bowel for roentgen examination. (Acta radiol. (Diag). 1; 1963; 1105-10).
- L291: 453: 3-ZC Jaundice, Diagnosis, Differentiation
 L291: 453: 3-ZC-Z54-I131 GAMMA RAY, IODINE 131
 L291: 453: 3-ZC-Z54-I131-9F25-9j1 25 microcurie, Rose bengal
 L291: 453: 3,ZC-Z54-I131-9F25-9j1-636 INJECTION, INTRA-VENOUS
 L291: 453: 3-ZC-Z54-I131-9F25-9j1-636: 2,c42 Jaundice, Diagnosis, Differentiation, Gamma ray, Iodine 131-25 microcurie, Rose bengal, Injection, Intravenous, Scanning, Scintillation counter
- 38 N58 NORDYKE (R A) and BLAHD (W H). Differential diagnosis, of jaundice with radioactive Rose bengal. (Proc, Inter Conf Peaceful Uses Atom Ener. 26: 1958; 146-9).

- L291:472:3 LIVER, TUMOUR, DIAGNOSIS
 L291:472:3-Z54-I131 Gamma Ray, Iodine 131
 L291:472:3-Z54-I131-9j1-636 ROSE BENGAL, INJECTION,
 INTRAVENOUS
 L291:472:3-Z54-I131-9j1-636:2 Liver, Tumour, Diagnosis,
 Gamma ray, Iodine 131, Rose bengal, Injection, Intravenous,
 Scanning.
- 39 N63 CHRISTIE (J H) and MACINTYRE (W J). Liver scanning.
 (TID-7673; 1963; 405-32).
- L292:4:3 Gall bladder, Disease, Diagnosis
 L292:4:3-Z53-zza X-RAY, POSITION
 L292:4:3-Z53-zzh4 Gall bladder, Disease, Diagnosis, X-ray,
 Lateral, Inclined
- 40 N64 AMBERG (J R), ZBORALSKE (F F), and JOHNSON (E R). Inclined
 Lateral decubitus position for chole-cystography. (Amer
 j roent. 92; 1964; 1128-30).
- L293:4:3,Z54 Pancreas, Disease, Diagnosis, Gamma ray
 L293:4:3-Z54-SE75-9F250 SELENIUM 75, 250 MICROCURIE
 L293:4:3-Z54-SE75-9F250-636 Injection, Intravenous
 L293:4:3-Z54-SE75-9F250-636-zzG30 EXPOSURE, 30MIN
 L293:4:3-Z54-SE75-9F250-636-zzG30:2F Pancreas, Disease,
 Diagnosis, Gamma ray, Selenium 75, 250 microcurie,
 Injection, Intravenous, Exposure, 30 min, Photoscan
- 41 N64 BURKE (G) and GOLDSTEIN (M S. (Radioisotope photoscan
 ning in the diagnosis of pancreatic disease. (Amer j
 roent. 92; 1964; 1156-63).
- L32:4:3,Z54 HEART, DISEASE, DIAGNOSIS, GAMMA RAY
 L32:4:3Z54-KR85-9H5 Krypton 85, 5 millicurie
 L32:4:3-Z54-KR85-9H5-45 INHALATION, (WITH) MASK
 L32:4:3-Z54-KR85-9H5-45:2,c42 Heart, Disease, Diagnosis,
 Gamma ray, Krypton 85, 5 millicurie, Inhalation with mask,
 Scanning, crystal scintillation counter
- 42 N58 JAIMET (C H), TOMLINSON (R H), and NACE (P F). Inhalation
 radiocardiography. (Proc, Inter Conf Peaceful uses,
 Atom Ener. 26; 1958; 94-8).
- L32:481CA:3-Z53 Heart, Calcification, Diagnosis, X-ray
 L32:481CA:3-Z53-zzc POSITION, DECUBITUS
 L32:481CA:3-Z53-zzc:5,nF2 Heart, Calcification, Diagnosis,
 X-ray, Decubitus, Tomography, Stroboscope
- 43 N64 RUSSEL (J G B). Stroboscopic tomography of the heart.
 (Brit j radiol. 37; 1964; 440-3).

- L39: 4: 3 Lymphatic vessel, Disease, Diagnosis**
L39: 4: 3-Z53-z9U X-RAY, CONTRAST MEDIUM, ULTRA FLUID LIPIODOL
L39: 4: 3-Z53-z9U: 44 UNTOWARD REACTION
L39: 4: 3-Z53-z9U:44 (L45: 485) Lymphatic vessel, Disease, Diagnosis, X-ray, Contrast medium, Ultra fluid Lipiodol, Untoward reaction, Lung, Oedema
- 44 N64 GOUGH (J H) and THOMAS (M L). Pulmonary complications, following lymphography. (ibid. 416-21).
- L45: 45: 3 Lung, Disease, Functional, Diagnosis**
L45: 45: 3-Z5M-O15 POSITRON, OXYGEN 15
L45: 45: 3-Z5M-O15-9ZPH SOURCE, CYCLOTRON
L45: 45: 3-Z5M-O15-9ZPH-4 INHALATION
L45: 45: 3-Z5M-O15-9ZPH-4: 3F COUNTING, COINCIDENCE
L45: 45: 3-Z5MO-15-9ZPH-94: 3F,c4211 Lung, Disease, Functional, Diagnosis, Positron, Oxygen 15, Cyclotron, Inhalation, Counting, Coincidence, NaI crystal scintillation counter
- 45 N58 DYSON (N A) and others. Preparation and use of Oxygen-15 with particular reference to its value in the study of pulmonary malfunction. (Prof. Inter Conf Peaceful uses Atom Ener. 26; 1958; 103-15).
- L5661: 4711: 3-ZG1eZ53 Prostrate gland, Structure, Abnormality, Measurement, Size, X-ray**
- 46 N64 VERMOOTEN (V) and others. Radiographic estimation of the size of the prostate. (Radiology. 182; 1964; 1010-5).
- L61: 4: 3 KIDNEY, DISEASE, DIAGNOSIS**
L61: 4: 3-Z54-AU198-9Z5 Gamma ray, Gold 198, Colloid
L61: 4: 3-Z54-AU198-9Z5-6: 2 INJECTION, SCANNING
L61: 4: 3-Z54-AU198-9Z5-6: 2,c4 Kidney, Disease, Diagnosis, Gamma ray, Gold 198, Colloid, Injection, Scanning, Scintillation Counter
- 47 N63 MCAFEE (J G). Scanning of the liver, mediastinum, and kidney. (TID-7673; 1963; 433-67).
- L62: 4: 3 Spleen, Disease, Diagnosis**
L62: 4: 3-Z54-CR51 GAMMA RAY, CHROMIUM 51
L62: 4: 3-Z54-CR51-9g54
L62: 4: 3-Z54-CR51-9g 54-636 INJECTION, ITRAVENOUS
L62: 4: 3-Z54-CR51-9g54-636: 2 Spleen, Disease, Diagnosis, Gamma ray, Chromium 51, Blood cell, Damaged Injection, Intravenous, Scanning
- 48 N63 WAGNER (H N) (Jr). Radioisotope scanning of the spleen. (TID-7672; 1963; 468-83).

- L65:452:6-Z54 Hyperthyroidism, Therapeutics, Gamma ray**
L65:453:6-Z54-I131 IODINE 131.
L65:452:6-Z54-I131-zz2 Hyperthyroidism, Therapeutics, Gamma ray, Iodine 131, Second dose
- 49 N63 ADRIAN (R E) and others. Considerations on the second dose of radioactive iodine in patients with hyperthyroidism not cured by the first dose. (*Dia med.* 35: 1963;82-5)
- L66:47248:6-Z-5Z5S Basophilism, Surgery, Proton**
- 50 N63 LINFOOT (J A) and others. Alpha particle or proton beam in radiosurgery of the pituitary gland for Cushing's disease. (*UCRL-11033*; 1963; 29-40).
- L7:47:3 Nervous system, Disease, Structural, Diagnosis**
L7:47:3-Z5-Zb RADIATION, LOW ENERGY
L7:47:3-Z5-Zb:5,nR Nervous system, Disease, Structural, Diagnosis, Radiation, Low energy, Radiography, Polaroid
- 51 N64 LOEW (A G) (Jr) and others. Polaroid radiographs in a neurosurgical practice. (*Calif med.* 100; 1964; 325-7).
- L72:4:3-Z5 Brain, Disease, Diagnosis, Radiation**
L72:4:3,Z5-A:27 RADIOISOTOPE, SCANNING, CYLINDRICAL
L72:4:3-Z5-A:27,c4211 Brain, Disease, Diagnosis, Radiation, Radioisotope, Scanning, Cylindrical, NaI crystal scintillation counter
- 52 N64 KUHL (D E) and EDWARDS (R Q). Cylindrical and section radioisotope scanning of the liver and brain (*Radiology* 83; 1964; 926-36).
- L72:4:3-Z54 Brain, Disease, Diagnosis, Gamma ray**
L72:4:3-Z54-I131-9g7 IODINE 131, CARRIER, SERUM ALBUMIN
L72:4:3-Z54-I131-9g70jHG203-9e1 Brain, Disease, Diagnosis, Gamma ray, Iodine 131, Serum albumin, Compared with Mercury 203, Neohydrin
- 53 N64 MEALEY (J) (Jr) and others. Clinical comparison of two agents used in brain scanning: Radioiodinated serum albumin vs Chloromerodrin Hg203. *JAMA*-189; 1964; 250-4).
- L72:47:3 Brain, Disease, Structural, Diagnosis**
L72:47:3-Z54-I131 GAMMA RAY, IODINE 121
L72:47:3-Z54-I131-9F50 50 MICROCURIE
L72:47:3-Z54-I131-9F50-9j1-6795 ROSE BENGAL, INJECTION CEREBROSPINAL FLUID

- L72: 47: 3-Z54-I131-9F60-9j1-6795:2y7 SCANNING, CASE STUDY
- L72: 47: 3-Z54-I131-9F50-9j1-6795:2y7,ZR5,72-C45 Brain, Disease, Structural, Diagnosis, Gamma ray, Iodine 131, 50 microcurie, Rose bengal, Injection, Cerebrospinal fluid, Scanning, *Macaca*, Brain, Refrigerated
- 54 N63 DI CHIRO (G). Anatomy of the brain and basic principles of brain scanning. (TID-7673; 1963; 347-70).
- L72: 472: 3-Z5M Brain, Tumour, Diagnosis, Positron
- L72: 472: 3-Z5M-AS74-636 ARSENIC 74, INJECTION, INTRA-
VENOUS
- L72: 472: 3-Z5M-AS74-636:2 Brain, Tumour, Diagnosis, Positron, Arsenic 74, Injection, Intravenous, Scanning.
- .55 N63 ARONOW (S). Positron brain scanning. (TID-7673; 1963; 371-87).
- L72: 472: 3-ZE Brain, Tumour, Location
- L72: 472: 3-ZE-Z54-HG203 GAMMA RAY, MERCURY 203
- L72: 472: 3-ZE-Z54-HG203-9F10-9e1 10 microcurie, Neohydrin
- L72: 472: 3-ZE-Z54-HG203-9F10-9e1-636 INJECTION, INTRA-
VENOUS
- L72: 472: -3ZE-Z54-HG203-9F10-9e1-636-zF3-5→EXPOSURE
3 TO 5 HOURS
- L72: 472: 3-ZE-Z54-HG203-9F10-9e1-9636-zF3→5: 2 Brain,
Tumour, Location, Gamma ray, Mercury 203, 10 microcurie,
Neohydrin, Injection, Intravenous, Exposure, 3 to 5 hours,
Scanning
- 56 N63 BENDER (M A) and BLAU (M). Brain tumour localization with gamma-emitting isotopes. (ibid. 388-92).
- L74-18517: 4725 Nerve, Retina, Tumour, Malignant
- L74-18517: 4725: 6-Z54-CO60 THERAPEUTICS, GAMMA RAY,
COBALT 60
- L74-18517: 4725: 6-Z54-CO60-zZ851 Nerve, Retina, Tumour,
Malignant, Therapeutics, Gamma ray, Cobalt 60, Appli-
cator, Stallar, Modification
- .57 N63 ROSENGREN (B H O) and TENGROTH (B). Modified CO60 applicator for the treatment of retinoblastoma. (Acta, radiol, New ser. 1; 1963; 403-13).
- L9C,2482: 478 Child, Pyloric orifice, Obstruction
- L9C2482: 478: 3-Z53 DIAGNOSIS, X-RAY
- L9C,2482: 478: 3-Z53-z(A) Child, Pyloric orifice, Obstruction,
Diagnosis, X-ray, Double contrast medium

- 58 N64 CURRARINO (G). Value of double contrast examination of the stomach with pressure "spots" in the diagnosis of infantile hypertrophic pyloric stenosis. (Radiology. 83; 1964; 873-8).
- L9F,556:4725:6 Breast, Tumour, Malignant, Therapeutics
 L9F,556:4725:6-Z5H-Ze ELECTRON, HIGH ENERGY
 L9F,556:4725:6-Z5H-Ze-9ZPR Breast, Tumour, Malignant, Therapeutics, Electron, High energy, Source, Betatron
- 59 N63 CHU (FC) and others. Treatment of breast cancer with high energy electrons produced by 24 Mev betatron. (Radiology. 81; 1964; 871-80).
- L9F,556:4725:6 Breast, Tumour, Malignant, Therapeutics
 L9F,556:4725:6-Z54-AU198-9H110 GAMMA RAY, GOLD 198, 110 MILLICURIE
 L9F,556:4725:6-Z54-AU198-9H110-9Z5-9g COLLOID, INTERSTITIAL
 L9F,556:4725:6-Z54-AU198-9H110-9Z5-9g-z1Z MULTIPLE DOSE
 L9F,556:4725:6-Z54-AU198-9H110-9Z5-9g-z1Z-zg-zb Breast, Tumour, Malignant, Therapeutics, Gamma ray, Gold 198, 110 millicurie, Colloid, Interstitial, Multiple dose, Pre-surgical
- 60 113N63 MUELLER (J H). Use of colloidal radiogold for preoperative interstitial pre-irradiation of breast cancer. (Gynaecologia. 156; 1963; 36-40).
- L9F,556:4725:6 Breast, Tumour, Malignant, Therapeutics
 L9F,556:4725:6-ZM-Z54 PALLIATION, GAMMA RAY
 L9F,556:4725:6-ZM-Z54-Ze Breast, Tumour, Malignant, Palliation, Gamma ray, High energy.
- 61 N64 STOLL (B A). Rapid palliative irradiation of inoperable breast cancer. (Clin radiol. 15; 1964; 175-8).

83 ANNOTATION

1 Each of some of the documents listed in Sec 82 deal with more than one subject. The document has been classified under one of the subjects only. The examples, being merely for the purpose of illustrating the construction of class numbers, cross references have not been given from the other subjects dealt with in a document.

2 Example 54. A schedule for 'Experimental Animal' will be given in a later paper in this series.

9 Majority vs Minority Interests

91 SOLUTION BASED ON BOND STRENGTH

The facet structure of the (HC) to which the isolate 'Radiation' can be attached to derive a subject falling within the area of Medical Radiology should be looked into. According to that facet structure, the isolate 'Radiation' can occur only in Round 3 in a subject falling within the area of Diagnostic Radiology or of Therapeutic Radiology. In a subject falling within the area of Public Health, it can occur in Round 2. In either case, the isolate 'Radiation' occurs at the Weak End of Bond Strength [7] of the facet structure of a subject involving it. Therefore, the documents in those subjects will lie scattered. From the point of view of the use of Radiation, such a scattering will be of help to the majority of medical specialists. For, their interest centres round an organ isolate or a disease isolate or a handling-of-disease isolate. All these are always brought near the Strong End of Bond Strength. As a result, the documents on them get packed together. In the case of Pharmacology of Radiation, the very (BC) Pharmacology stands quite apart from the class Medicine.

92 SOLUTION THROUGH CATALOGUE

While the above-mentioned kind of organization of the documents involving Radiation as an isolate is helpful to the majority of readers, there is an important minority whose interest centres round the isolate 'Radiation'—the technique involved in its production, application, and the equipment needed. As usual, this interest is to be served in one of the three recognised ways [10], viz.,

- 1 Providing Index Entries in the Alphabetical part of the Catalogue having 'Radiation' as the First Heading. This is done by Chain Procedure and the First Heading may be 'Radiation' in general or the name of a specific Radiation.

- 2 Repeating the appropriate main entries under the heading 'Radiation' in the Alphabetical part of the Catalogue—the duplicates of the main entries are arranged by Call Numbers; and

3 Pulling out all the documents involving 'Radiation' and forming a Specialist Collection of them.

The third method will be adopted in a Specialist Library for Radiologists. The first method will be adopted in a Generalist Library and even in a Generalist Library in Medicine. The second method will be adopted in the few libraries not falling in either of the above two categories.

93 PARTIALLY AND FULLY COMPREHENSIVE DOCUMENTS

There is likely to be a still another problem. This is created by the existence of documents partially comprehending two or more of the different areas in Medical Radiology. A document may also comprehend all the areas. One method of dealing with such partially or wholly comprehending documents is to make Cross Reference Entries (that is, Subject Analytical Entries) But, at present, this may be a weak and least helpful method.

94 DIGIT FOR PARTIAL COMPREHENSION

It is desirable to have a special Class Number for such a partial or full comprehension. Here, the postulation of Z as an Emptying and Comprehending Digit [13] is of use. Perhaps, we may represent such documents by the Class Number L: 4: 2Z5.

941 ANNOTATION

1 In this (CN) the digit '2' has been emptied of its semantic value by the addition of the Emptying Digit 'Z'. The combination of the digits 2 and Z alone has semantic content. The combination 2Z comprehends several of the isolates occurring later in the schedule of [2E] *cum* [3P] in subjects falling in the area of Medicine.

2 The subject represented by L: 4: 2Z has been provisionally subdivided as follows:

L: 4: 2Z5 Medical Radiology

L: 4: 2Z54 Nuclear Medicine

3 These (CN) are to be used only for comprehensive works on Medical Radiology or Nuclear Medicine as the case may be.

These classes should not be subdivided beyond the point where it leads to cross-classification. This means that, if a (CN) can be constructed with the Schedules given in this paper and also by the subdivision of the two partially comprehensive classes enumerated above, then the former method of constructing the (CN) alone should be followed. This is to avoid violence to the Canon of Exclusiveness [8].

95 BIBLIOGRAPHICAL REFERENCES

- 1 Sec 25 BRITISH STANDARDS INSTITUTION. Glossary of terms used in radiology. (BS 2597: 1955; N 1101).
- 2 Sec 23 *ibid.* (N 1241).
- 3 Sec 24 *ibid.* (N 1242).
- 5 Sec 22 *ibid.* (N 1302).
- 5 Sec 21 MCGRAW-HILL ENCYCLOPEDIA of science and technology. 1960. (V 9; P 196).
- 6 Sec 27 *ibid.* (V 11; P 315).
- 7 Sec 91 RANGANATHAN (S R). Bond Strength (*In* author's Colon Classification. A description. 1964. (Rutgers seminars on Systems for the intellectual organization of information. 4.) (Chap V).
- 8 Sec 93 — Canon of exclusiveness. (*In* author's Prologomena to Library Classification. Ed. 2. 1957, (Sec 142)).
- 9 Sec 17 ———. Design of depth classification: Methodology. (Lib sc. 1; 1964; Paper A).
- 10 Sec 92 ———. Conflict in classification for document retrieval. DRTC seminar (2) (1964). Paper 1-10.
- 11 Sec 32 ———. Facet analysis: Rounds. (*In* author's Elements of Library Classifications. Ed 3. 1962. (Chap J).
- 12 Sec 36 ———. Notational Plane. (*In* author's Design of Depth Classification: Methodology. Sec 4.) (Lib sc. 1; 1964; Paper A)).

- 13 Sec 93 ———. Partial Comprehension. (*In* author's Notational plane: Interpolation and Extrapolation. Sec 31. (An lib sc. 10; 1963; Paper A)).
- 14 Sec 32 ———. Practical classification. (*In* author's Elements of Library Classification. Ed 3. 1962. Chap N).
- 15 Sec 36 ———. Sequence of (Q1). (*In* author's Design
511 of Depth Classification: Methodology. Sec 61. (Lib sc. 1; 1964; Paper A)).
- 16 Sec 43 ———. Wall-Picture Principle. (*In* author's Elements of Library Classifications. Ed 3. 1962. Sec N32).