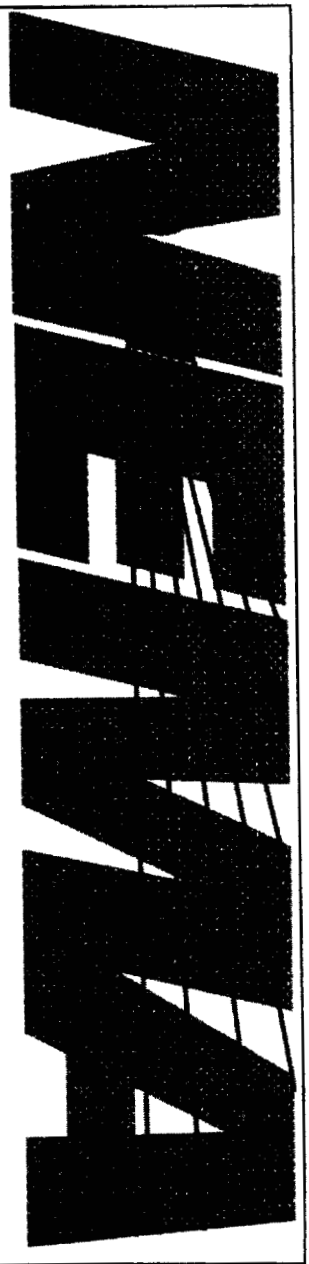
DIAGNOSTIC IMAGING & COMMUNICATIONS IN MEDICINE
(DICOM)

PART 6

Data Dictionary



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Digital Imaging and Communications in Medicine (DICOM)
Part 6: Data Dictionary

Approved by:

The American College of Radiology
The American College of Cardiology

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CONTENTS

CONTENTS i
FOREWORD ii
1 Scope and field of application 1
2 Normative references 1
3 Definitions 1
3.1 DICOM INTRODUCTION AND OVERVIEW DEFINITION 1
3.2 DICOM INFORMATION OBJECT DEFINITION 1
3.3 DICOM DATA STRUCTURES AND ENCODING DEFINITIONS 2
3.4 DICOM DATA DICTIONARY 2
4 Symbols and abbreviations 2
5 Conventions 2
6 Registry of DICOM data elements 4
7 Registry of DICOM File Meta Elements 33
8 Registry of DICOM directory structuring elements 34
Annex A Registry of DICOM unique identifiers (UID) (Normative) 35

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FOREWORD

The American College of Radiology (ACR) and the National Electrical Manufacturers Association (NEMA) formed a joint committee to develop a standard for Digital Imaging and Communications in Medicine (DICOM). This DICOM Standard was developed according to the NEMA procedures.

This standard is developed in liaison with other standardization organizations including CEN TC251 in Europe and JIRA in Japan, with review also by other organizations including IEEE, HL7 and ANSI in the USA.

The DICOM Standard is structured as a multi-part document using the guidelines established in the following document:

ISO/IEC Directives, 1989 Part 3 : Drafting and Presentation of International Standards.

This document is one part of the DICOM Standard which consists of the following parts:

PS 3.1: Introduction and Overview
PS 3.2: Conformance
PS 3.3: Information Object Definitions
PS 3.4: Service Class Specifications
PS 3.5: Data Structures and Encoding
PS 3.6: Data Dictionary
PS 3.7: Message Exchange
PS 3.8: Network Communication Support for Message Exchange
PS 3.9: Point-to-Point Communication Support for Message Exchange
PS 3.10: Media Storage and File Format for Media Interchange
PS 3.11: Media Storage Application Profiles
PS 3.12: Media Formats and Physical Media for Media Interchange
PS 3.13: Print Management Point-to-Point Communication Support

These parts are related but independent documents. Their development level and approval status may differ. Additional parts may be added to this multi-part standard. PS 3.1 should be used as the base reference for the current parts of this standard.

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1 Scope and field of application

This part of the DICOM Standard is PS 3.6 of a multi-part standard produced to facilitate the interchange of information between digital imaging computer systems in medical environments. This interchange will enhance diagnostic imaging and potentially other clinical applications. The multi-part DICOM Standard covers the protocols and data that shall be supplied to achieve this interchange of information.

This part of the standard contains the registry of all DICOM Data Elements and all DICOM Unique Identifiers that are defined within the DICOM Standard.

2 Normative references

The following standards contain provisions that, through references in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibilities of applying the most recent editions of the standards indicated below.

ACR-NEMA 300-1988 Digital Imaging and Communications

ISO 8649:1988 Information processing systems - Open Systems Interconnection - Service definition for the Association Control Service Element (ACSE).

ISO 8822:1988 Information processing systems - Open Systems Interconnection - Connection oriented presentation service definition.

ISO/IEC Directives, 1989 Part 3 - Drafting and presentation of International Standards.

3 Definitions

For the purposes of this standard, the following definitions apply.

3.1 DICOM INTRODUCTION AND OVERVIEW DEFINITION

This part of the standard makes use of the following term defined in PS 3.1:

- Attribute

3.2 DICOM INFORMATION OBJECT DEFINITION

This part of the standard makes use of the following term defined in PS 3.3:

- Attribute Tag

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3.3 DICOM DATA STRUCTURES AND ENCODING DEFINITIONS

This part of the standard makes use of the following terms defined in PS 3.5:

a. Data Element
b. Data Element Tag
c. Element Number
d. Group Number
e. Repeating Group
f. Retired Data Element
g. Standard Data Element
h. Value Multiplicity (VM)
i. Value Representation (VR)

3.4 DICOM DATA DICTIONARY

The following definition is commonly used in this Standard:

Tag: A unique identifier for an element of information composed of an ordered pair of numbers (a Group Number followed by an Element Number), which is used to identify Attributes and corresponding Data Elements.

4 Symbols and abbreviations

The following symbols and abbreviations are used in this Standard.

ACR	American College of Radiology
DICOM	Digital Imaging and Communications in Medicine
IOD	Information Object Definition
ISO	International Standards Organization
NEMA	National Electrical Manufacturers Association
OSI	Open Systems Interconnection
TCP/IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identifier
VM	Value Multiplicity
VR	Value Representation

5 Conventions

Word(s) are capitalized in this document to help the reader understand that these word(s) have been previously defined in Section 3 and are to be interpreted with that meaning.

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A Data Element Tag is represented as (gggg,eeee), where gggg equates to the Group Number and eeee equates to the Element Number within that Group. Data Element Tags are represented in hexadecimal notation as specified for each named Data Element in this Standard.

"RET" is used to indicate that the corresponding Data Element, SOP Class, or Transfer Syntax has been *retired*. Retired items are shown italicized.

Note: The use of retired items is supported in this version of DICOM. However, new implementations are strongly encouraged to implement alternative Data Elements, SOP Classes or Transfer Syntaxes.

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6 Registry of DICOM data elements

Tag	Name	VR	VM	
(0008,0000)	Group Length	UL	1	
(0008,0001)	*Length to End*			*RET*
(0008,0005)	Specific Character Set	CS	1-n	
(0008,0008)	Image Type	CS	1-n	
(0008,0010)	*Recognition Code*			*RET*
(0008,0012)	Instance Creation Date	DA	1	
(0008,0013)	Instance Creation Time	TM	1	
(0008,0014)	Instance Creator UID	UI	1	
(0008,0016)	SOP Class UID	UI	1	
(0008,0018)	SOP Instance UID	UI	1	
(0008,0020)	Study Date	DA	1	
(0008,0021)	Series Date	DA	1	
(0008,0022)	Acquisition Date	DA	1	
(0008,0023)	Image Date	DA	1	
(0008,0024)	Overlay Date	DA	1	
(0008,0025)	Curve Date	DA	1	
(0008,0030)	Study Time	TM	1	
(0008,0031)	Series Time	TM	1	
(0008,0032)	Acquisition Time	TM	1	
(0008,0033)	Image Time	TM	1	
(0008,0034)	Overlay Time	TM	1	
(0008,0035)	Curve Time	TM	1	
(0008,0040)	*Data Set Type*			*RET*
(0008,0041)	*Data Set Subtype*			*RET*
(0008,0042)	*Nuclear Medicine Series Type*	*CS*	*1*	*RET*
(0008,0050)	Accession Number	SH	1	
(0008,0052)	Query/Retrieve Level	CS	1	
(0008,0054)	Retrieve AE Title	AE	1-n	

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Tag	Name	VR	VM	
(0008,0058)	Failed SOP Instance UID List	UI	1-n	
(0008,0060)	Modality	CS	1	
(0008,0064)	Conversion Type	CS	1	
(0008,0070)	Manufacturer	LO	1	
(0008,0080)	Institution Name	LO	1	
(0008,0081)	Institution Address	ST	1	
(0008,0082)	Institution Code Sequence	SQ	1	
(0008,0090)	Referring Physician's Name	PN	1	
(0008,0092)	Referring Physician's Address	ST	1	
(0008,0094)	Referring Physician's Telephone Numbers	SH	1-n	
(0008,0100)	Code Value	SH	1	
(0008,0102)	Coding Scheme Designator	SH	1	
(0008,0104)	Code Meaning	LO	1	
(0008,1000)	*Network ID*			*RET*
(0008,1010)	Station Name	SH	1	
(0008,1030)	Study Description	LO	1	
(0008,1032)	Procedure Code Sequence	SQ	1	
(0008,103E)	Series Description	LO	1	
(0008,1040)	Institutional Department Name	LO	1	
(0008,1048)	Physician(s) of Record	PN	1-n	
(0008,1050)	Performing Physician's Name	PN	1-n	
(0008,1060)	Name of Physician(s) Reading Study	PN	1-n	
(0008,1070)	Operators' Name	PN	1-n	
(0008,1080)	Admitting Diagnoses Description	LO	1-n	
(0008,1084)	Admitting Diagnosis Code Sequence	SQ	1	
(0008,1090)	Manufacturer's Model Name	LO	1	
(0008,1100)	Referenced Results Sequence	SQ	1	
(0008,1110)	Referenced Study Sequence	SQ	1	
(0008,1111)	Referenced Study Component Sequence	SQ	1	
(0008,1115)	Referenced Series Sequence	SQ	1	
(0008,1120)	Referenced Patient Sequence	SQ	1	
(0008,1125)	Referenced Visit Sequence	SQ	1	

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Tag	Name	VR	VM	
(0008,1130)	Referenced Overlay Sequence	SQ	1	
(0008,1140)	Referenced Image Sequence	SQ	1	
(0008,1145)	Referenced Curve Sequence	SQ	1	
(0008,1150)	Referenced SOP Class UID	UI	1	
(0008,1155)	Referenced SOP Instance UID	UI	1	
(0008,1160)	Referenced Frame Number	IS	1	
(0008,1195)	Transaction UID	UI	1	
(0008,1197)	Failure Reason	US	1	
(0008,1198)	Failed SOP Sequence	SQ	1	
(0008,1199)	Referenced SOP Sequence	SQ	1	
(0008,2110)	*Lossy Image Compression*	*CS*	*1*	*RET*
(0008,2111)	Derivation Description	ST	1	
(0008,2112)	Source Image Sequence	SQ	1	
(0008,2120)	Stage Name	SH	1	
(0008,2122)	Stage Number	IS	1	
(0008,2124)	Number of Stages	IS	1	
(0008,2128)	View Number	IS	1	
(0008,2129)	Number of Event Timers	IS	1	
(0008,212A)	Number of Views in Stage	IS	1	
(0008,2130)	Event Elapsed Time(s)	DS	1-n	
(0008,2132)	Event Timer Name(s)	LO	1-n	
(0008,2142)	Start Trim	IS	1	
(0008,2143)	Stop Trim	IS	1	
(0008,2144)	Recommended Display Frame Rate	IS	1	
(0008,2200)	*Transducer Position*	*CS*	*1*	*RET*
(0008,2204)	*Transducer Orientation*	*CS*	*1*	*RET*
(0008,2208)	*Anatomic Structure*	*CS*	*1*	*RET*
(0008,2218)	Anatomic Region Sequence	SQ	1	
(0008,2220)	Anatomic Region Modifier Sequence	SQ	1	
(0008,2228)	Primary Anatomic Structure Sequence	SQ	1	
(0008,2230)	Primary Anatomic Structure Modifier Sequence	SQ	1	

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Tag	Name	VR	VM	
(0008,2240)	Transducer Position Sequence	SQ	1	
(0008,2242)	Transducer Position Modifier Sequence	SQ	1	
(0008,2244)	Transducer Orientation Sequence	SQ	1	
(0008,2246)	Transducer Orientation Modifier Sequence	SQ	1	
(0008,4000)	*Comments*			*RET*

Tag	Name	VR	VM	
(0010,0000)	Group Length	UL	1	
(0010,0010)	Patient's Name	PN	1	
(0010,0020)	Patient ID	LO	1	
(0010,0021)	Issuer of Patient ID	LO	1	
(0010,0030)	Patient's Birth Date	DA	1	
(0010,0032)	Patient's Birth Time	TM	1	
(0010,0040)	Patient's Sex	CS	1	
(0010,0050)	Patient's Insurance Plan Code Sequence	SQ	1	
(0010,1000)	Other Patient IDs	LO	1-n	
(0010,1001)	Other Patient Names	PN	1-n	
(0010,1005)	Patient's Birth Name	PN	1	
(0010,1010)	Patient's Age	AS	1	
(0010,1020)	Patient's Size	DS	1	
(0010,1030)	Patient's Weight	DS	1	
(0010,1040)	Patient's Address	LO	1	
(0010,1050)	*Insurance Plan Identification*			*RET*
(0010,1060)	Patient's Mother's Birth Name	PN	1	
(0010,1080)	Military Rank	LO	1	
(0010,1081)	Branch of Service	LO	1	
(0010,1090)	Medical Record Locator	LO	1	
(0010,2000)	Medical Alerts	LO	1-n	
(0010,2110)	Contrast Allergies	LO	1-n	
(0010,2150)	Country of Residence	LO	1	
(0010,2152)	Region of Residence	LO	1	

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Tag	Name	VR	VM
(0010,2154)	Patient's Telephone Numbers	SH	1-n
(0010,2160)	Ethnic Group	SH	1
(0010,2180)	Occupation	SH	1
(0010,21A0)	Smoking Status	CS	1
(0010,21B0)	Additional Patient History	LT	1
(0010,21C0)	Pregnancy Status	US	1
(0010,21D0)	Last Menstrual Date	DA	1
(0010,21F0)	Patient's Religious Preference	LO	1
(0010,4000)	Patient Comments	LT	1

Tag	Name	VR	VM	
(0018,0000)	Group Length	UL	1	
(0018,0010)	Contrast/Bolus Agent	LO	1	
(0018,0012)	Contrast/Bolus Agent Sequence	SQ	1	
(0018,0014)	Contrast/Bolus Administration Route Sequence	SQ	1	
(0018,0015)	Body Part Examined	CS	1	
(0018,0020)	Scanning Sequence	CS	1-n	
(0018,0021)	Sequence Variant	CS	1-n	
(0018,0022)	Scan Options	CS	1-n	
(0018,0023)	MR Acquisition Type	CS	1	
(0018,0024)	Sequence Name	SH	1	
(0018,0025)	Angio Flag	CS	1	
(0018,0026)	Intervention Drug Information Sequence	SQ	1	
(0018,0027)	Intervention Drug Stop Time	TM	1	
(0018,0028)	Intervention Drug Dose	DS	1	
(0018,0029)	Intervention Drug Code Sequence	SQ	1	
(0018,002A)	Additional Drug Sequence	SQ	1	
(0018,0030)	*Radionuclide*	*LO*	*1-n*	*RET*
(0018,0031)	Radiopharmaceutical	LO	1	
(0018,0032)	*Energy Window Centerline*	*DS*	*1*	*RET*
(0018,0033)	*Energy Window Total Width*	*DS*	*1-n*	*RET*

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Tag	Name	VR	VM
(0018,0034)	Intervention Drug Name	LO	1
(0018,0035)	Intervention Drug Start Time	TM	1
(0018,0036)	Interventional Therapy Sequence	SQ	1
(0018,0037)	Therapy Type	CS	1
(0018,0038)	Interventional Status	CS	1
(0018,0039)	Therapy Description	CS	1
(0018,0040)	Cine Rate	IS	1
(0018,0050)	Slice Thickness	DS	1
(0018,0060)	KVP	DS	1
(0018,0070)	Counts Accumulated	IS	1
(0018,0071)	Acquisition Termination Condition	CS	1
(0018,0072)	Effective Series Duration	DS	1
(0018,0080)	Repetition Time	DS	1
(0018,0081)	Echo Time	DS	1
(0018,0082)	Inversion Time	DS	1
(0018,0083)	Number of Averages	DS	1
(0018,0084)	Imaging Frequency	DS	1
(0018,0085)	Imaged Nucleus	SH	1
(0018,0086)	Echo Number(s)	IS	1-n
(0018,0087)	Magnetic Field Strength	DS	1
(0018,0088)	Spacing Between Slices	DS	1
(0018,0089)	Number of Phase Encoding Steps	IS	1
(0018,0090)	Data Collection Diameter	DS	1
(0018,0091)	Echo Train Length	IS	1
(0018,0093)	Percent Sampling	DS	1
(0018,0094)	Percent Phase Field of View	DS	1
(0018,0095)	Pixel Bandwidth	DS	1
(0018,1000)	Device Serial Number	LO	1
(0018,1004)	Plate ID	LO	1
(0018,1010)	Secondary Capture Device ID	LO	1
(0018,1012)	Date of Secondary Capture	DA	1
(0018,1014)	Time of Secondary Capture	TM	1

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Tag	Name	VR	VM	
(0018,1016)	Secondary Capture Device Manufacturer	LO	1	
(0018,1018)	Secondary Capture Device Manufacturer's Model Name	LO	1	
(0018,1019)	Secondary Capture Device Software Version(s)	LO	1-n	
(0018,1020)	Software Version(s)	LO	1-n	
(0018,1022)	Video Image Format Acquired	SH	1	
(0018,1023)	Digital Image Format Acquired	LO	1	
(0018,1030)	Protocol Name	LO	1	
(0018,1040)	Contrast/Bolus Route	LO	1	
(0018,1041)	Contrast/Bolus Volume	DS	1	
(0018,1042)	Contrast/Bolus Start Time	TM	1	
(0018,1043)	Contrast/Bolus Stop Time	TM	1	
(0018,1044)	Contrast/Bolus Total Dose	DS	1	
(0018,1045)	Syringe Counts	IS	1	
(0018,1046)	Contrast Flow Rate(s)	DS	1-n	
(0018,1047)	Contrast Flow Duration(s)	DS	1-n	
(0018,1048)	Contrast/Bolus Ingredient	CS	1	
(0018,1049)	Contrast/Bolus Ingredient Concentration	DS	1	
(0018,1050)	Spatial Resolution	DS	1	
(0018,1060)	Trigger Time	DS	1	
(0018,1061)	Trigger Source or Type	LO	1	
(0018,1062)	Nominal Interval	IS	1	
(0018,1063)	Frame Time	DS	1	
(0018,1064)	Framing Type	LO	1	
(0018,1065)	Frame Time Vector	DS	1-n	
(0018,1066)	Frame Delay	DS	1	
(0018,1070)	*Radionuclide Route*	*LO*	*1-n*	*RET*
(0018,1070)	Radiopharmaceutical Route	LO	1	
(0018,1071)	*Radionuclide Volume*	*DS*	*1-n*	*RET*
(0018,1071)	Radiopharmaceutical Volume	DS	1	
(0018,1072)	*Radionuclide Start Time*	*TM*	*1-n*	*RET*
(0018,1072)	Radiopharmaceutical Start Time	TM	1	

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Tag	Name	VR	VM	
(0018,1073)	*Radionuclide Stop Time*	*TM*	*1-n*	*RET*
(0018,1073)	Radiopharmaceutical Stop Time	TM	1	
(0018,1074)	*Radionuclide Total Dose*	*DS*	*1-n*	*RET*
(0018,1074)	Radionuclide Total Dose	DS	1	
(0018,1080)	Beat Rejection Flag	CS	1	
(0018,1081)	Low R-R Value	IS	1	
(0018,1082)	High R-R Value	IS	1	
(0018,1083)	Intervals Acquired	IS	1	
(0018,1084)	Intervals Rejected	IS	1	
(0018,1085)	PVC Rejection	LO	1	
(0018,1086)	Skip Beats	IS	1	
(0018,1088)	Heart Rate	IS	1	
(0018,1090)	Cardiac Number of Images	IS	1	
(0018,1094)	Trigger Window	IS	1	
(0018,1100)	Reconstruction Diameter	DS	1	
(0018,1110)	Distance Source to Detector	DS	1	
(0018,1111)	Distance Source to Patient	DS	1	
(0018,1114)	Estimated Radiographic Magnification Factor	DS	1	
(0018,1120)	Gantry/Detector Tilt	DS	1	
(0018,1130)	Table Height	DS	1	
(0018,1131)	Table Traverse	DS	1	
(0018,1134)	Table Motion	CS	1	
(0018,1135)	Table Vertical Increment	DS	1-n	
(0018,1136)	Table Lateral Increment	DS	1-n	
(0018,1137)	Table Longitudinal Increment	DS	1-n	
(0018,1138)	Table Angle	DS	1	
(0018,1140)	Rotation Direction	CS	1	
(0018,1141)	Angular Position	DS	1	
(0018,1142)	Radial Position	DS	1-n	
(0018,1143)	Scan Arc	DS	1	
(0018,1144)	Angular Step	DS	1	
(0018,1145)	Center of Rotation Offset	DS	1	

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Tag	Name	VR	VM	
(0018,1146)	*Rotation Offset*	*DS*	*1-n*	*RET*
(0018,1147)	Field of View Shape	CS	1	
(0018,1149)	Field of View Dimension(s)	IS	1-2	
(0018,1150)	Exposure Time	IS	1	
(0018,1151)	X-ray Tube Current	IS	1	
(0018,1152)	Exposure	IS	1	
(0018,1154)	Average Pulse Width	DS	1	
(0018,1155)	Radiation Setting	CS	1	
(0018,115A)	Radiation Mode	CS	1	
(0018,115E)	Image Area Dose Product	DS	1	
(0018,1160)	Filter Type	SH	1	
(0018,1161)	Type of Filters	LO	1-n	
(0018,1162)	Intensifier Size	DS	1	
(0018,1164)	Imager Pixel Spacing	DS	2	
(0018,1166)	Grid	CS	1	
(0018,1170)	Generator Power	IS	1	
(0018,1180)	Collimator/grid Name	SH	1	
(0018,1181)	Collimator Type	CS	1	
(0018,1182)	Focal Distance	IS	1-2	
(0018,1183)	X Focus Center	DS	1-2	
(0018,1184)	Y Focus Center	DS	1-2	
(0018,1190)	Focal Spot(s)	DS	1-n	
(0018,1200)	Date of Last Calibration	DA	1-n	
(0018,1201)	Time of Last Calibration	TM	1-n	
(0018,1210)	Convolution Kernel	SH	1-n	
(0018,1240)	*Upper/Lower Pixel Values*			*RET*
(0018,1242)	Actual Frame Duration	IS	1	
(0018,1243)	Count Rate	IS	1	
(0018,1244)	Preferred Playback Sequencing	US	1	
(0018,1250)	Receiving Coil	SH	1	
(0018,1251)	Transmitting Coil	SH	1	

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Tag	Name	VR	VM
(0018,1260)	Plate Type	SH	1
(0018,1261)	Phosphor Type	LO	1
(0018,1300)	Scan Velocity	DS	1
(0018,1301)	Whole Body Technique	CS	1-n
(0018,1302)	Scan Length	IS	1
(0018,1310)	Acquisition Matrix	US	4
(0018,1312)	Phase Encoding Direction	CS	1
(0018,1314)	Flip Angle	DS	1
(0018,1315)	Variable Flip Angle Flag	CS	1
(0018,1316)	SAR	DS	1
(0018,1318)	dB/dt	DS	1
(0018,1400)	Acquisition Device Processing Description	LO	1
(0018,1401)	Acquisition Device Processing Code	LO	1
(0018,1402)	Cassette Orientation	CS	1
(0018,1403)	Cassette Size	CS	1
(0018,1404)	Exposures on Plate	US	1
(0018,1405)	Relative X-ray Exposure	IS	1
(0018,1450)	Column Angulation	CS	1
(0018,1460)	Tomo Layer Height	DS	1
(0018,1470)	Tomo Angle	DS	1
(0018,1480)	Tomo Time	DS	1
(0018,1500)	Positioner Motion	CS	1
(0018,1510)	Positioner Primary Angle	DS	1
(0018,1511)	Positioner Secondary Angle	DS	1
(0018,1520)	Positioner Primary Angle Increment	DS	1-n
(0018,1521)	Positioner Secondary Angle Increment	DS	1-n
(0018,1530)	Detector Primary Angle	DS	1
(0018,1531)	Detector Secondary Angle	DS	1
(0018,1600)	Shutter Shape	CS	1-3
(0018,1602)	Shutter Left Vertical Edge	IS	1

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Tag	Name	VR	VM	
(0018,1604)	Shutter Right Vertical Edge	IS	1	
(0018,1606)	Shutter Upper Horizontal Edge	IS	1	
(0018,1608)	Shutter Lower Horizontal Edge	IS	1	
(0018,1610)	Center of Circular Shutter	IS	2	
(0018,1612)	Radius of Circular Shutter	IS	1	
(0018,1620)	Vertices of the Polygonal Shutter	IS	2-2n	
(0018,1700)	Collimator Shape	CS	1-3	
(0018,1702)	Collimator Left Vertical Edge	IS	1	
(0018,1704)	Collimator Right Vertical Edge	IS	1	
(0018,1706)	Collimator Upper Horizontal Edge	IS	1	
(0018,1708)	Collimator Lower Horizontal Edge	IS	1	
(0018,1710)	Center of Circular Collimator	IS	2	
(0018,1712)	Radius of Circular Collimator	IS	1	
(0018,1720)	Vertices of the Polygonal Collimator	IS	2-2n	
(0018,4000)	*Comments*			*RET*
(0018,5000)	Output Power	SH	1-n	
(0018,5010)	Transducer Data	LO	3	
(0018,5012)	Focus Depth	DS	1	
(0018,5020)	Processing Function	LO	1	
(0018,5021)	Postprocessing Function	LO	1	
(0018,5022)	Mechanical Index	DS	1	
(0018,5024)	Thermal Index	DS	1	
(0018,5026)	Cranial Thermal Index	DS	1	
(0018,5027)	Soft Tissue Thermal Index	DS	1	
(0018,5028)	Soft Tissue-focus Thermal Index	DS	1	
(0018,5029)	Soft Tissue-surface Thermal Index	DS	1	
(0018,5030)	*Dynamic Range*			*RET*
(0018,5040)	*Total Gain*			*RET*
(0018,5050)	Depth of Scan Field	IS	1	

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Tag	Name	VR	VM
(0018,5100)	Patient Position	CS	1
(0018,5101)	View Position	CS	1
(0018,5210)	Image Transformation Matrix	DS	6
(0018,5212)	Image Translation Vector	DS	3
(0018,6000)	Sensitivity	DS	1
(0018,6011)	Sequence of Ultrasound Regions	SQ	1
(0018,6012)	Region Spatial Format	US	1
(0018,6014)	Region Data Type	US	1
(0018,6016)	Region Flags	UL	1
(0018,6018)	Region Location Min X_0	UL	1
(0018,601A)	Region Location Min Y_0	UL	1
(0018,601C)	Region Location Max X_1	UL	1
(0018,601E)	Region Location Max Y_1	UL	1
(0018,6020)	Reference Pixel X_0	SL	1
(0018,6022)	Reference Pixel Y_0	SL	1
(0018,6024)	Physical Units X Direction	US	1
(0018,6026)	Physical Units Y Direction	US	1
(0018,6028)	Reference Pixel Physical Value X	FD	1
(0018,602A)	Reference Pixel Physical Value Y	FD	1
(0018,602C)	Physical Delta X	FD	1
(0018,602E)	Physical Delta Y	FD	1
(0018,6030)	Transducer Frequency	UL	1
(0018,6031)	Transducer Type	CS	1
(0018,6032)	Pulse Repetition Frequency	UL	1
(0018,6034)	Doppler Correction Angle	FD	1
(0018,6036)	Steering Angle	FD	1
(0018,6038)	Doppler Sample Volume X Position	UL	1
(0018,603A)	Doppler Sample Volume Y Position	UL	1
(0018,603C)	TM-Line Position X_0	UL	1
(0018,603E)	TM-Line Position Y_0	UL	1
(0018,6040)	TM-Line Position X_1	UL	1

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Tag	Name	VR	VM
(0018,6042)	TM-Line Position Y_1	UL	1
(0018,6044)	Pixel Component Organization	US	1
(0018,6046)	Pixel Component Mask	UL	1
(0018,6048)	Pixel Component Range Start	UL	1
(0018,604A)	Pixel Component Range Stop	UL	1
(0018,604C)	Pixel Component Physical Units	US	1
(0018,604E)	Pixel Component Data Type	US	1
(0018,6050)	Number of Table Break Points	UL	1
(0018,6052)	Table of X Break Points	UL	1-n
(0018,6054)	Table of Y Break Points	FD	1-n
(0018,6056)	Number of Table Entries	UL	1
(0018,6058)	Table of Pixel Values	UL	1-n
(0018,605A)	Table of Parameter Values	FL	1-n

Tag	Name	VR	VM	
(0020,0000)	Group Length	UL	1	
(0020,000D)	Study Instance UID	UI	1	
(0020,000E)	Series Instance UID	UI	1	
(0020,0010)	Study ID	SH	1	
(0020,0011)	Series Number	IS	1	
(0020,0012)	Acquisition Number	IS	1	
(0020,0013)	Image Number	IS	1	
(0020,0014)	*Isotope Number*	*IS*	*1*	*RET*
(0020,0015)	*Phase Number*	*IS*	*1*	*RET*
(0020,0016)	*Interval Number*	*IS*	*1*	*RET*
(0020,0017)	*Time Slot Number*	*IS*	*1*	*RET*
(0020,0018)	*Angle Number*	*IS*	*1*	*RET*
(0020,0020)	Patient Orientation	CS	2	
(0020,0022)	Overlay Number	IS	1	
(0020,0024)	Curve Number	IS	1	
(0020,0026)	Lookup Table Number	IS	1	

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Tag	Name	VR	VM	
(0020,0030)	*Image Position*			*RET*
(0020,0032)	Image Position (Patient)	DS	3	
(0020,0035)	*Image Orientation*			*RET*
(0020,0037)	Image Orientation (Patient)	DS	6	
(0020,0050)	*Location*			*RET*
(0020,0052)	Frame of Reference UID	UI	1	
(0020,0060)	Laterality	CS	1	
(0020,0070)	*Image Geometry Type*			*RET*
(0020,0080)	*Masking Image*			*RET*
(0020,0100)	Temporal Position Identifier	IS	1	
(0020,0105)	Number of Temporal Positions	IS	1	
(0020,0110)	Temporal Resolution	DS	1	
(0020,1000)	Series in Study	IS	1	
(0020,1001)	*Acquisitions in Series*			*RET*
(0020,1002)	Images in Acquisition	IS	1	
(0020,1004)	Acquisitions in Study	IS	1	
(0020,1020)	*Reference*			*RET*
(0020,1040)	Position Reference Indicator	LO	1	
(0020,1041)	Slice Location	DS	1	
(0020,1070)	Other Study Numbers	IS	1-n	
(0020,1200)	Number of Patient Related Studies	IS	1	
(0020,1202)	Number of Patient Related Series	IS	1	
(0020,1204)	Number of Patient Related Images	IS	1	
(0020,1206)	Number of Study Related Series	IS	1	
(0020,1208)	Number of Study Related Images	IS	1	
(0020,3100 to 31FF)	*Source Image IDs*			*RET*
(0020,3401)	*Modifying Device ID*			*RET*
(0020,3402)	*Modified Image ID*			*RET*
(0020,3403)	*Modified Image Date*			*RET*
(0020,3404)	*Modifying Device Manufacturer*			*RET*
(0020,3405)	*Modified Image Time*			*RET*

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Tag	Name	VR	VM	
(0020,3406)	*Modified Image Description*			*RET*
(0020,4000)	Image Comments	LT	1	
(0020,5000)	*Original Image Identification*			*RET*
(0020,5002)	*Original Image Identification Nomenclature*			*RET*

Tag	Name	VR	VM	
(0028,0000)	Group Length	UL	1	
(0028,0002)	Samples per Pixel	US	1	
(0028,0004)	Photometric Interpretation	CS	1	
(0028,0005)	*Image Dimensions*			*RET*
(0028,0006)	Planar Configuration	US	1	
(0028,0008)	Number of Frames	IS	1	
(0028,0009)	Frame Increment Pointer	AT	1-n	
(0028,0010)	Rows	US	1	
(0028,0011)	Columns	US	1	
(0028,0012)	Planes	US	1	
(0028,0014)	Ultrasound Color Data Present	US	1	
(0028,0030)	Pixel Spacing	DS	2	
(0028,0031)	Zoom Factor	DS	2	
(0028,0032)	Zoom Center	DS	2	
(0028,0034)	Pixel Aspect Ratio	IS	2	
(0028,0040)	*Image Format*			*RET*
(0028,0050)	*Manipulated Image*			*RET*
(0028,0051)	Corrected Image	CS	1-n	
(0028,0060)	*Compression Code*			*RET*
(0028,0100)	Bits Allocated	US	1	
(0028,0101)	Bits Stored	US	1	
(0028,0102)	High Bit	US	1	
(0028,0103)	Pixel Representation	US	1	
(0028,0104)	*Smallest Valid Pixel Value*			*RET*
(0028,0105)	*Largest Valid Pixel Value*			*RET*

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Tag	Name	VR	VM	
(0028,0106)	Smallest Image Pixel Value	US or SS	1	
(0028,0107)	Largest Image Pixel Value	US or SS	1	
(0028,0108)	Smallest Pixel Value in Series	US or SS	1	
(0028,0109)	Largest Pixel Value in Series	US or SS	1	
(0028,0110)	Smallest Image Pixel Value in Plane	US or SS	1	
(0028,0111)	Largest Image Pixel Value in Plane	US or SS	1	
(0028,0120)	Pixel Padding Value	US or SS	1	
(0028,0200)	*Image Location*			*RET*
(0028,1040)	Pixel Intensity Relationship	CS	1	
(0028,1050)	Window Center	DS	1-n	
(0028,1051)	Window Width	DS	1-n	
(0028,1052)	Rescale Intercept	DS	1	
(0028,1053)	Rescale Slope	DS	1	
(0028,1054)	Rescale Type	LO	1	
(0028,1055)	Window Center & Width Explanation	LO	1-n	
(0028,1080)	*Gray Scale*			*RET*
(0028,1090)	Recommended Viewing Mode	CS	1	
(0028,1100)	*Gray Lookup Table Descriptor*			*RET*
(0028,1101)	Red Palette Color Lookup Table Descriptor	US\US or SS\US	3	
(0028,1102)	Green Palette Color Lookup Table Descriptor	US\US or SS\US	3	
(0028,1103)	Blue Palette Color Lookup Table Descriptor	US\US or SS\US	3	
(0028,1199)	Palette Color Lookup Table UID	UI	1	
(0028,1200)	*Gray Lookup Table Data*			*RET*
(0028,1201)	Red Palette Color Lookup Table Data	US or SS or OW	1-n 1	
(0028,1202)	Green Palette Color Lookup Table Data	US or SS or OW	1-n 1	
(0028,1203)	Blue Palette Color Lookup Table Data	US or SS or OW	1-n 1	
(0028,1221)	Segmented Red Palette Color Lookup Table Data	OW	1	
(0028,1222)	Segmented Green Palette Color Lookup Table Data	OW	1	

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Tag	Name	VR	VM	
(0028,1223)	Segmented Blue Palette Color Lookup Table Data	OW	1	
(0028,2110)	Lossy Image Compression	CS	1	
(0028,3000)	Modality LUT Sequence	SQ	1	
(0028,3002)	LUT Descriptor	US\US or SS\US	3	
(0028,3003)	LUT Explanation	LO	1	
(0028,3004)	Modality LUT Type	LO	1	
(0028,3006)	LUT Data	US or SS	1-n	
(0028,3010)	VOI LUT Sequence	SQ	1	
(0028,4000)	*Comments*			*RET*
(0028,5000)	Bi-Plane Acquisition Sequence	SQ	1	
(0028,6010)	Representative Frame Number	US	1	
(0028,6020)	Frame Numbers of Interest (FOI)	US	1-n	
(0028,6022)	Frame(s) of Interest Description	LO	1-n	
(0028,6030)	Mask Pointer(s)	US	1-n	
(0028,6040)	R Wave Pointer	US	1-n	
(0028,6100)	Mask Subtraction Sequence	SQ	1	
(0028,6101)	Mask Operation	CS	1	
(0028,6102)	Applicable Frame Range	US	2-2n	
(0028,6110)	Mask Frame Numbers	US	1-n	
(0028,6112)	Contrast Frame Averaging	US	1	
(0028,6114)	Mask Sub-pixel Shift	FL	2	
(0028,6120)	TID Offset	SS	1	
(0028,6190)	Mask Operation Explanation	ST	1	

Tag	Name	VR	VM
(0032,0000)	Group Length	UL	1
(0032,000A)	Study Status ID	CS	1
(0032,000C)	Study Priority ID	CS	1

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Tag	Name	VR	VM
(0032,0012)	Study ID Issuer	LO	1
(0032,0032)	Study Verified Date	DA	1
(0032,0033)	Study Verified Time	TM	1
(0032,0034)	Study Read Date	DA	1
(0032,0035)	Study Read Time	TM	1
(0032,1000)	Scheduled Study Start Date	DA	1
(0032,1001)	Scheduled Study Start Time	TM	1
(0032,1010)	Scheduled Study Stop Date	DA	1
(0032,1011)	Scheduled Study Stop Time	TM	1
(0032,1020)	Scheduled Study Location	LO	1
(0032,1021)	Scheduled Study Location AE Title(s)	AE	1-n
(0032,1030)	Reason for Study	LO	1
(0032,1032)	Requesting Physician	PN	1
(0032,1033)	Requesting Service	LO	1
(0032,1040)	Study Arrival Date	DA	1
(0032,1041)	Study Arrival Time	TM	1
(0032,1050)	Study Completion Date	DA	1
(0032,1051)	Study Completion Time	TM	1
(0032,1055)	Study Component Status ID	CS	1
(0032,1060)	Requested Procedure Description	LO	1
(0032,1064)	Requested Procedure Code Sequence	SQ	1
(0032,1070)	Requested Contrast Agent	LO	1
(0032,4000)	Study Comments	LT	1

Tag	Name	VR	VM
(0038,0000)	Group Length	UL	1
(0038,0004)	Referenced Patient Alias Sequence	SQ	1
(0038,0008)	Visit Status ID	CS	1
(0038,0010)	Admission ID	LO	1
(0038,0011)	Issuer of Admission ID	LO	1
(0038,0016)	Route of Admissions	LO	1

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Tag	Name	VR	VM
(0038,001A)	Scheduled Admission Date	DA	1
(0038,001B)	Scheduled Admission Time	TM	1
(0038,001C)	Scheduled Discharge Date	DA	1
(0038,001D)	Scheduled Discharge Time	TM	1
(0038,001E)	Scheduled Patient Institution Residence	LO	1
(0038,0020)	Admitting Date	DA	1
(0038,0021)	Admitting Time	TM	1
(0038,0030)	Discharge Date	DA	1
(0038,0032)	Discharge Time	TM	1
(0038,0040)	Discharge Diagnosis Description	LO	1
(0038,0044)	Discharge Diagnosis Code Sequence	SQ	1
(0038,0050)	Special Needs	LO	1
(0038,0300)	Current Patient Location	LO	1
(0038,0400)	Patient's Institution Residence	LO	1
(0038,0500)	Patient State	LO	1
(0038,4000)	Visit Comments	LT	1

Tag	Name	VR	VM
(0040,0000)	Group Length	UL	1
(0040,0001)	Scheduled Station AE Title	AE	1-n
(0040,0002)	Scheduled Procedure Step Start Date	DA	1
(0040,0003)	Scheduled Procedure Step Start Time	TM	1
(0040,0004)	Scheduled Procedure Step End Date	DA	1
(0040,0005)	Scheduled Procedure Step End Time	TM	1
(0040,0006)	Scheduled Performing Physician's Name	PN	1
(0040,0007)	Scheduled Procedure Step Description	LO	1
(0040,0008)	Scheduled Action Item Code Sequence	SQ	1
(0040,0009)	Scheduled Procedure Step ID	SH	1
(0040,0010)	Scheduled Station Name	SH	1-n

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Tag	Name	VR	VM
(0040,0011)	Scheduled Procedure Step Location	SH	1
(0040,0012)	Pre-Medication	LO	1
(0040,0100)	Scheduled Procedure Step Sequence	SQ	1
(0040,0400)	Comments on the Scheduled Procedure Step	LT	1
(0040,1001)	Requested Procedure ID	SH	1
(0040,1002)	Reason for the Requested Procedure	LO	1
(0040,1003)	Requested Procedure Priority	SH	1
(0040,1004)	Patient Transport Arrangements	LO	1
(0040,1005)	Requested Procedure Location	LO	1
(0040,1006)	Placer Order Number / Procedure	SH	1
(0040,1007)	Filler Order Number / Procedure	SH	1
(0040,1008)	Confidentiality Code	LO	1
(0040,1009)	Reporting Priority	SH	1
(0040,1010)	Names of Intended Recipients of Results	PN	1-n
(0040,1400)	Requested Procedure Comments	LT	1
(0040,2001)	Reason for the Imaging Service Request	LO	1
(0040,2004)	Issue Date of Imaging Service Request	DA	1
(0040,2005)	Issue Time of Imaging Service Request	TM	1
(0040,2006)	Placer Order Number / Imaging Service Request	SH	1
(0040,2007)	Filler Order Number / Imaging Service Request	SH	1
(0040,2008)	Order Entered By	PN	1
(0040,2009)	Order Enterer's Location	SH	1
(0040,2010)	Order Callback Phone Number	SH	1
(0040,2400)	Imaging Service Request Comments	LT	1
(0040,3001)	Confidentiality Constraint on Patient Data Description	LO	1

Tag	Name	VR	VM
(0050,0000)	Group Length	UL	1

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Tag	Name	VR	VM
(0050,0004)	Calibration Object	CS	1
(0050,0010)	Device Sequence	SQ	1
(0050,0014)	Device Length	DS	1
(0050,0016)	Device Diameter	DS	1
(0050,0017)	Device Diameter Units	CS	1
(0050,0018)	Device Volume	DS	1
(0050,0019)	Inter-marker Distance	DS	1
(0050,0020)	Device Description	LO	1

Tag	Name	VR	VM
(0054,0000)	Group Length	UL	1
(0054,0010)	Energy Window Vector	US	1-n
(0054,0011)	Number of Energy Windows	US	1
(0054,0012)	Energy Window Information Sequence	SQ	1
(0054,0013)	Energy Window Range Sequence	SQ	1
(0054,0014)	Energy Window Lower Limit	DS	1
(0054,0015)	Energy Window Upper Limit	DS	1
(0054,0016)	Radiopharmaceutical Information Sequence	SQ	1
(0054,0017)	Residual Syringe Counts	IS	1
(0054,0018)	Energy Window Name	SH	1
(0054,0020)	Detector Vector	US	1-n
(0054,0021)	Number of Detectors	US	1
(0054,0022)	Detector Information Sequence	SQ	1
(0054,0030)	Phase Vector	US	1-n
(0054,0031)	Number of Phases	US	1
(0054,0032)	Phase Information Sequence	SQ	1
(0054,0033)	Number of Frames in Phase	US	1

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Tag	Name	VR	VM
(0054,0036)	Phase Delay	IS	1
(0054,0038)	Pause Between Frames	IS	1
(0054,0050)	Rotation Vector	US	1-n
(0054,0051)	Number of Rotations	US	1
(0054,0052)	Rotation Information Sequence	SQ	1
(0054,0053)	Number of Frames in Rotation	US	1
(0054,0060)	R-R Interval Vector	US	1-n
(0054,0061)	Number of R-R Intervals	US	1
(0054,0062)	Gated Information Sequence	SQ	1
(0054,0063)	Data Information Sequence	SQ	1
(0054,0070)	Time Slot Vector	US	1-n
(0054,0071)	Number of Time Slots	US	1
(0054,0072)	Time Slot Information Sequence	SQ	1
(0054,0073)	Time Slot Time	DS	1
(0054,0080)	Slice Vector	US	1-n
(0054,0081)	Number of Slices	US	1
(0054,0090)	Angular View Vector	US	1-n
(0054,0100)	Time Slice Vector	US	1-n
(0054,0200)	Start Angle	DS	1
(0054,0202)	Type of Detector Motion	CS	1
(0054,0210)	Trigger Vector	IS	1-n
(0054,0211)	Number of Triggers in Phase	US	1
(0054,0220)	View Code Sequence	SQ	1
(0054,0222)	View Angulation Modifier Code Sequence	SQ	1
(0054,0300)	Radionuclide Code Sequence	SQ	1
(0054,0302)	Radiopharmaceutical Route Code Sequence	SQ	1
(0054,0304)	Radiopharmaceutical Code Sequence	SQ	1
(0054,0306)	Calibration Data Sequence	SQ	1

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Tag	Name	VR	VM
(0054,0308)	Energy Window Number	US	1
(0054,0400)	Image ID	SH	1
(0054,0410)	Patient Orientation Code Sequence	SQ	1
(0054,0412)	Patient Orientation Modifier Code Sequence	SQ	1
(0054,0414)	Patient Gantry Relationship Code Sequence	SQ	1

Tag	Name	VR	VM
(0088,0000)	Group Length	UL	1
(0088,0130)	Storage Media File-set ID	SH	1
(0088,0140)	Storage Media File-set UID	UI	1
(0088,0200)	Icon Image Sequence	SQ	1
(0088,0904)	Topic Title	LO	1
(0088,0906)	Topic Subject	ST	1
(0088,0910)	Topic Author	LO	1
(0088,0912)	Topic Key Words	LO	1-32

Tag	Name	VR	VM
(2000,0000)	Group Length	UL	1
(2000,0010)	Number of Copies	IS	1
(2000,0020)	Print Priority	CS	1
(2000,0030)	Medium Type	CS	1
(2000,0040)	Film Destination	CS	1
(2000,0050)	Film Session Label	LO	1
(2000,0060)	Memory Allocation	IS	1
(2000,0500)	Referenced Film Box Sequence	SQ	1

Tag	Name	VR	VM
(2010,0000)	Group Length	UL	1
(2010,0010)	Image Display Format	ST	1

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Tag	Name	VR	VM
(2010,0030)	Annotation Display Format ID	CS	1
(2010,0040)	Film Orientation	CS	1
(2010,0050)	Film Size ID	CS	1
(2010,0060)	Magnification Type	CS	1
(2010,0080)	Smoothing Type	CS	1
(2010,0100)	Border Density	CS	1
(2010,0110)	Empty Image Density	CS	1
(2010,0120)	Min Density	US	1
(2010,0130)	Max Density	US	1
(2010,0140)	Trim	CS	1
(2010,0150)	Configuration Information	ST	1
(2010,0500)	Referenced Film Session Sequence	SQ	1
(2010,0510)	Referenced Image Box Sequence	SQ	1
(2010,0520)	Referenced Basic Annotation Box Sequence	SQ	1

Tag	Name	VR	VM
(2020,0000)	Group Length	UL	1
(2020,0010)	Image Position	US	1
(2020,0020)	Polarity	CS	1
(2020,0030)	Requested Image Size	DS	1
(2020,0110)	Preformatted Grayscale Image Sequence	SQ	1
(2020,0111)	Preformatted Color Image Sequence	SQ	1
(2020,0130)	Referenced Image Overlay Box Sequence	SQ	1
(2020,0140)	Referenced VOI LUT Box Sequence	SQ	1

Tag	Name	VR	VM
(2030,0000)	Group Length	UL	1
(2030,0010)	Annotation Position	US	1
(2030,0020)	Text String	LO	1

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Tag	Name	VR	VM	

Tag	Name	VR	VM	
(2040,0000)	Group Length	UL	1	
(2040,0010)	Referenced Overlay Plane Sequence	SQ	1	
(2040,0011)	Referenced Overlay Plane Groups	US	1-99	
(2040,0060)	Overlay Magnification Type	CS	1	
(2040,0070)	Overlay Smoothing Type	CS	1	
(2040,0080)	Overlay Foreground Density	CS	1	
(2040,0090)	Overlay Mode	CS	1	
(2040,0100)	Threshold Density	CS	1	
(2040,0500)	*Referenced Image Box Sequence*	*SQ*	*1*	*RET*

Tag	Name	VR	VM
(2100,0000)	Group Length	UL	1
(2100,0020)	Execution Status	CS	1
(2100,0030)	Execution Status Info	CS	1
(2100,0040)	Creation Date	DA	1
(2100,0050)	Creation Time	TM	1
(2100,0070)	Originator	AE	1
(2100,0500)	Referenced Print Job Sequence	SQ	1

Tag	Name	VR	VM
(2110,0000)	Group Length	UL	1
(2110,0010)	Printer Status	CS	1
(2110,0020)	Printer Status Info	CS	1
(2110,0030)	Printer Name	LO	1
(2110,0099)	Print Queue ID	SH	1

Tag	Name	VR	VM	
(4000,0000)	*Group Length*			*RET*

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Tag	Name	VR	VM
(4000,0010)	*Arbitrary*		*RET*
(4000,4000)	*Comments*		*RET*

Tag	Name	VR	VM
(4008,0000)	Group Length	UL	1
(4008,0040)	Results ID	SH	1
(4008,0042)	Results ID Issuer	LO	1
(4008,0050)	Referenced Interpretation Sequence	SQ	1
(4008,0100)	Interpretation Recorded Date	DA	1
(4008,0101)	Interpretation Recorded Time	TM	1
(4008,0102)	Interpretation Recorder	PN	1
(4008,0103)	Reference to Recorded Sound	LO	1
(4008,0108)	Interpretation Transcription Date	DA	1
(4008,0109)	Interpretation Transcription Time	TM	1
(4008,010A)	Interpretation Transcriber	PN	1
(4008,010B)	Interpretation Text	ST	1
(4008,010C)	Interpretation Author	PN	1
(4008,0111)	Interpretation Approver Sequence	SQ	1
(4008,0112)	Interpretation Approval Date	DA	1
(4008,0113)	Interpretation Approval Time	TM	1
(4008,0114)	Physician Approving Interpretation	PN	1
(4008,0115)	Interpretation Diagnosis Description	LT	1
(4008,0117)	Interpretation Diagnosis Code Sequence	SQ	1
(4008,0118)	Results Distribution List Sequence	SQ	1
(4008,0119)	Distribution Name	PN	1
(4008,011A)	Distribution Address	LO	1
(4008,0200)	Interpretation ID	SH	1
(4008,0202)	Interpretation ID Issuer	LO	1
(4008,0210)	Interpretation Type ID	CS	1
(4008,0212)	Interpretation Status ID	CS	1
(4008,0300)	Impressions	ST	1

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Tag	Name	VR	VM
(4008,4000)	Results Comments	ST	1

Tag	Name	VR	VM
(50xx,0000)	Group Length	UL	1
(50xx,0005)	Curve Dimensions	US	1
(50xx,0010)	Number of Points	US	1
(50xx,0020)	Type of Data	CS	1
(50xx,0022)	Curve Description	LO	1
(50xx,0030)	Axis Units	SH	1-n
(50xx,0040)	Axis Labels	SH	1-n
(50xx,0103)	Data Value Representation	US	1
(50xx,0104)	Minimum Coordinate Value	US	1-n
(50xx,0105)	Maximum Coordinate Value	US	1-n
(50xx,0106)	Curve Range	SH	1-n
(50xx,0110)	Curve Data Descriptor	US	1-n
(50xx,0112)	Coordinate Start Value	US	1
(50xx,0114)	Coordinate Step Value	US	1
(50xx,2000)	Audio Type	US	1
(50xx,2002)	Audio Sample Format	US	1
(50xx,2004)	Number of Channels	US	1
(50xx,2006)	Number of Samples	UL	1
(50xx,2008)	Sample Rate	UL	1
(50xx,200A)	Total Time	UL	1
(50xx,200C)	Audio Sample Data	OW/OB	1
(50xx,200E)	Audio Comments	LT	1
(50xx,2500)	Curve Label	LO	1
(50xx,2600)	Referenced Overlay Sequence	SQ	1
(50xx,2610)	Referenced Overlay Group	US	1
(50xx,3000)	Curve Data	OW/OB	1

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Tag	Name	VR	VM	

Tag	Name	VR	VM	
(60xx,0000)	Group Length	UL	1	
(60xx,0010)	Overlay Rows	US	1	
(60xx,0011)	Overlay Columns	US	1	
(60xx,0012)	Overlay Planes	US	1	
(60xx,0015)	Number of Frames in Overlay	IS	1	
(60xx,0022)	Overlay Description	LO	1	
(60xx,0040)	Overlay Type	CS	1	
(60xx,0045)	Overlay Subtype	LO	1	
(60xx,0050)	Origin	SS	2	
(60xx,0051)	Image Frame Origin	US	1	
(60xx,0052)	Overlay Plane Origin	US	1	
(60xx,0060)	*Compression Code*			*RET*
(60xx,0100)	Overlay Bits Allocated	US	1	
(60xx,0102)	Overlay Bit Position	US	1	
(60xx,0110)	*Overlay Format*			*RET*
(60xx,0200)	*Overlay Location*			*RET*
(60xx,1100)	Overlay Descriptor - Gray	US	1	
(60xx,1101)	Overlay Descriptor - Red	US	1	
(60xx,1102)	Overlay Descriptor - Green	US	1	
(60xx,1103)	Overlay Descriptor - Blue	US	1	
(60xx,1200)	Overlays- Gray	US	1-n	
(60xx,1201)	Overlays - Red	US	1-n	
(60xx,1202)	Overlays - Green	US	1-n	
(60xx,1203)	Overlays- Blue	US	1-n	
(60xx,1301)	ROI Area	IS	1	
(60xx,1302)	ROI Mean	DS	1	
(60xx,1303)	ROI Standard Deviation	DS	1	
(60xx,1500)	Overlay Label	LO	1	
(60xx,3000)	Overlay Data	OW	1	
(60xx,4000)	*Comments*			*RET*

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Tag	Name	VR	VM

Tag	Name	VR	VM
(7FE0,0000)	Group Length	UL	1
(7FE0,0010)	Pixel Data	OW/OB	1

Tag	Name	VR	VM
(FFFC,FFFC)	Data Set Trailing Padding	OB	1

Tag	Name	VR	VM
(FFFE,E000)	Item	see note	1
(FFFE,E00D)	Item Delimitation Item	see note	1
(FFFE,E0DD)	Sequence Delimitation Item	see note	1

Note: The VR for Data Elements, Item (FFFE,E000), Item Delimitation Item (FFFE,E00D), and Sequence Delimitation Item (FFFE,E0DD) do not exist. See PS 3.5 for explanation.

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7 Registry of DICOM File Meta Elements

This section specifies the File Meta Elements needed to support the formatting of the File Meta Information of the DICOM File Format (See PS 3.10).

Tag	Name	VR	VM
(0002,0000)	Group Length	UL	1
(0002,0001)	File Meta Information Version	OB	1
(0002,0002)	Media Storage SOP Class UID	UI	1
(0002,0003)	Media Storage SOP Instance UID	UI	1
(0002,0010)	Transfer Syntax UID	UI	1
(0002,0012)	Implementation Class UID	UI	1
(0002,0013)	Implementation Version Name	SH	1
(0002,0016)	Source Application Entity Title	AE	1
(0002,0100)	Private Information Creator UID	UI	1
(0002,0102)	Private Information	OB	1

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8 Registry of DICOM directory structuring elements

Tag	Name	VR	VM
(0004,0000)	Group Length	UL	1
(0004,1130)	File-set ID	CS	1
(0004,1141)	File-set Descriptor File ID	CS	1-8
(0004,1142)	Specific Character Set of File-set Descriptor File	CS	1
(0004,1200)	Offset of the First Directory Record of the Root Directory Entity	UL	1
(0004,1202)	Offset of the Last Directory Record of the Root Directory Entity	UL	1
(0004,1212)	File-set Consistency Flag	US	1
(0004,1220)	Directory Record Sequence	SQ	1
(0004,1400)	Offset of the Next Directory Record	UL	1
(0004,1410)	Record In-use Flag	US	1
(0004,1420)	Offset of Referenced Lower-Level Directory Entity	UL	1
(0004,1430)	Directory Record Type	CS	1
(0004,1432)	Private Record UID	UI	1
(0004,1500)	Referenced File ID	CS	1-8
(0004,1504)	MRDR Directory Record Offset	UL	1
(0004,1510)	Referenced SOP Class UID in File	UI	1
(0004,1511)	Referenced SOP Instance UID in File	UI	1
(0004,1512)	Referenced Transfer Syntax UID in File	UI	1
(0004,1600)	Number of References	UL	1

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Annex A Registry of DICOM unique identifiers (UID) (Normative)

Table A-1 lists the UID values which are registered and used throughout the Parts of the DICOM Standard. This central registry ensures that when additional UIDs are assigned, non duplicate values are assigned.

Table A-1
UID VALUES

UID Value	UID NAME	UID TYPE	Part
1.2.840.10008.1.1	Verification SOP Class	SOP Class	PS 3.4
1.2.840.10008.1.2	Implicit VR Little Endian: Default Transfer Syntax for DICOM	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.1	Explicit VR Little Endian	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.2	Explicit VR Big Endian	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.50	JPEG Baseline (Process 1): Default Transfer Syntax for Lossy JPEG 8 Bit Image Compression	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.51	JPEG Extended (Process 2 & 4): Default Transfer Syntax for Lossy JPEG 12 Bit Image Compression (Process 4 only)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.52	JPEG Extended (Process 3 & 5)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.53	JPEG Spectral Selection, Non-Hierarchical (Process 6 & 8)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.54	JPEG Spectral Selection, Non-Hierarchical (Process 7 & 9)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.55	JPEG Full Progression, Non-Hierarchical (Process 10 & 12)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.56	JPEG Full Progression, Non-Hierarchical (Process 11 & 13)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.57	JPEG Lossless, Non-Hierarchical (Process 14)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.58	JPEG Lossless, Non-Hierarchical (Process 15)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.59	JPEG Extended, Hierarchical (Process 16 & 18)	Transfer Syntax	PS 3.5

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1.2.840.10008.1.2.4.60	JPEG Extended, Hierarchical (Process 17 & 19)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.61	JPEG Spectral Selection, Hierarchical (Process 20 & 22)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.62	JPEG Spectral Selection, Hierarchical (Process 21 & 23)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.63	JPEG Full Progression, Hierarchical (Process 24 & 26)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.64	JPEG Full Progression, Hierarchical (Process 25 & 27)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.65	JPEG Lossless, Hierarchical (Process 28)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.66	JPEG Lossless, Hierarchical (Process 29)	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.4.70	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1]): Default Transfer Syntax for Lossless JPEG Image Compression	Transfer Syntax	PS 3.5
1.2.840.10008.1.2.5	RLE Lossless	Transfer Syntax	PS 3.5
1.2.840.10008.1.3.10	Media Storage Directory Storage	SOP Class	PS 3.4
1.2.840.10008.1.9	Basic Study Content Notification SOP Class	SOP Class	PS 3.4
1.2.840.10008.1.20.1	Storage Commitment Push Model SOP Class	SOP Class	PS 3.4
1.2.840.10008.1.20.1.1	Storage Commitment Push Model SOP Instance	Well-known SOP Instance	PS 3.4
1.2.840.10008.1.20.2	Storage Commitment Pull Model SOP Class	SOP Class	PS 3.4
1.2.840.10008.1.20.2.1	Storage Commitment Pull Model SOP Instance	Well-known SOP Instance	PS 3.4
1.2.840.10008.3.1.1.1	DICOM Application Context Name	Application Context Name	PS 3.7
1.2.840.10008.3.1.2.1.1	Detached Patient Management SOP Class	SOP Class	PS 3.4
1.2.840.10008.3.1.2.1.4	Detached Patient Management Meta SOP Class	Meta SOP Class	PS 3.4
1.2.840.10008.3.1.2.2.1	Detached Visit Management SOP Class	SOP Class	PS 3.4

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1.2.840.10008.3.1.2.3.1	Detached Study Management SOP Class	SOP Class	PS 3.4
1.2.840.10008.3.1.2.3.2	Study Component Management SOP Class	SOP Class	PS 3.4
1.2.840.10008.3.1.2.5.1	Detached Results Management SOP Class	SOP Class	PS 3.4
1.2.840.10008.3.1.2.5.4	Detached Results Management Meta SOP Class	Meta SOP Class	PS 3.4
1.2.840.10008.3.1.2.5.5	Detached Study Management Meta SOP Class	Meta SOP Class	PS 3.4
1.2.840.10008.3.1.2.6.1	Detached Interpretation Management SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.1	Basic Film Session SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.2	Basic Film Box SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.4	Basic Grayscale Image Box SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.4.1	Basic Color Image Box SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.4.2	Referenced Image Box SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.9	Basic Grayscale Print Management Meta SOP Class	Meta SOP Class	PS 3.4
1.2.840.10008.5.1.1.9.1	Referenced Grayscale Print Management Meta SOP Class	Meta SOP Class	PS 3.4
1.2.840.10008.5.1.1.14	Print Job SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.15	Basic Annotation Box SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.16	Printer SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.17	Printer SOP Instance	Well-known Printer SOP Instance	PS 3.4
1.2.840.10008.5.1.1.18	Basic Color Print Management Meta SOP Class	Meta SOP Class	PS 3.4
1.2.840.10008.5.1.1.18.1	Referenced Color Print Management Meta SOP Class	Meta SOP Class	PS 3.4
1.2.840.10008.5.1.1.22	VOI LUT Box SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.1.24	Image Overlay Box SOP Class	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.1	Computed Radiography Image Storage	SOP Class	PS 3.4

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1.2.840.10008.5.1.4.1.1.2	CT Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.3	*Ultrasound Multi-frame Image Storage (Retired)*	*SOP Class*	*PS 3.4*
1.2.840.10008.5.1.4.1.1.3.1	Ultrasound Multi-frame Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.4	MR Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.5	*Nuclear Medicine Image Storage (Retired)*	*SOP Class*	*PS 3.4*
1.2.840.10008.5.1.4.1.1.6	*Ultrasound Image Storage (Retired)*	*SOP Class*	*PS 3.4*
1.2.840.10008.5.1.4.1.1.6.1	Ultrasound Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.7	Secondary Capture Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.8	Standalone Overlay Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.9	Standalone Curve Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.10	Standalone Modality LUT Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.11	Standalone VOI LUT Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.12.1	X-Ray Angiographic Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.12.2	X-Ray Radiofluoroscopic Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.12.3	X-Ray Angiographic Bi-Plane Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.1.20	Nuclear Medicine Image Storage	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.1.1	Patient Root Query/Retrieve Information Model - FIND	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.1.2	Patient Root Query/Retrieve Information Model - MOVE	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.1.3	Patient Root Query/Retrieve Information Model - GET	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.2.1	Study Root Query/Retrieve Information Model - FIND	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.2.2	Study Root Query/Retrieve Information Model - MOVE	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.2.3	Study Root Query/Retrieve Information Model - GET	SOP Class	PS 3.4

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1.2.840.10008.5.1.4.1.2.3.1	Patient/Study Only Query/Retrieve Information Model - FIND	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.3.2	Patient/Study Only Query/Retrieve Information Model - MOVE	SOP Class	PS 3.4
1.2.840.10008.5.1.4.1.2.3.3	Patient/Study Only Query/Retrieve Information Model - GET	SOP Class	PS 3.4
1.2.840.10008.5.1.4.31	Modality Worklist Information Model - FIND	SOP Class	PS 3.4

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