DICOM Correction Item

Correction Number	CP-613
Log Summary: Clarify Patient Data vs Phantom Data	
Type of Modification Modification	Name of Standard PS 3.3, 3.6, 3.16 2006
Rationale for Correction: The handling of dose data (and images) may differ depending on whether a phantom or an actual patient was imaged (and potentially dosed with radiation). Image objects should clearly indicate phantom/QC images. Processing, comparison and evaluation of phantom images would benefit from being able to describe the specific phantom used.	
Sections of documents affected PS 3.3 Annex C PS 3.6 PS 3.16	
Correction Wording: Point to Quality Control Image attribute and use of Device Module for describing phantoms as shown below. Point to CTDIvol attribute and use of Device Module for describing phantoms as shown below. Add device identification attributes to Device Module as shown below. Add General Devices and Phantom Devices Tables and DICOM Code Definitions. Add Device Module to all Image Objects.	

Add to PS-3.3 Annex A

A.1.4 Overview of the Composite IOD Module Content

Tables A.1-1 and A.1-2 provide an overview of the Modules used throughout the Composite IODs. This table is for informative purposes only. It is based on the IOD definitions found in the remaining Sections of Annex A that are normative.

Table A.1-1
COMPOSITE INFORMATION OBJECT MODULES OVERVIEW - IMAGES

IODs Modules	CR	CT	Enh CT	MR	Enh MR	NM	US	US MF	SC	SC MF SB	SC MF GB	SC MF GW	SC MF TC	XA	RF	RT IM	PET	DX	MG	IO	VL EN	VL MC	VL SL	VL PH	Vid VL EN	Vid VL MC	Vid VL PH	Oph 8 Bit	Oph 16 Bit
Patient	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Specimen Identification			U		U													U	U	U		M	M	C		M	C	U	U
Clinical Trial Subject	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
General Study	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Patient Study	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Clinical Trial Study	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
General Series	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		M	M	M	M	M	M	M	M	M	M	M	M	M
Clinical Trial Series	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
…																													
General Image	M	M		M		M	M*	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
…																													
Device	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**	U	U	**U**	**U**	U	U	U	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**	**U**
Intervention														U	U			U	U	U									
…																													

* The notation next to M and U indicates a special condition for these modules. Refer to the corresponding Information Object Definitions in this Annex for details.

In PS 3.3, Add the Device module to the Image IODs as indicated in the above table, by adding the following line to each Image IODs

IE	Module	Reference	Usage
…			
Image			
	Device	**C.7.6.12**	**U**
…			

Amend PS-3.3 C.7.6

C.7.6.1 General Image Module

Table C.7-9 specifies the Attributes that identify and describe an image within a particular series.

Table C.7-9
GENERAL IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
…			
Quality Control Image	(0028,0300)	3	Indicates whether or not this image is a quality control or phantom image. Enumerated Values: YES NO If this Attribute is absent, then the image may or may not be a quality control or phantom image. **The phantom device in the image can be described using the Device Module. See C.7.6.12**
…			

C.7.6.12 Device Module

Table C.7-18 describes the Attributes of devices (e.g., catheters, markers, baskets**, phantoms**) that are associated with a study and/or image.

Table C.7-18
DEVICE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
Device Sequence	(0050,0010)	3	Introduces sequence of items describing devices used that may be visible in the image
>Include 'Code Sequence Macro' Table 8.8-1		*Baseline Context ID is **~~8~~4051***	
>Manufacturer	**(0008,0070)**	**3**	**Manufacturer of the device**
>Manufacturer's Model Name	**(0008,1090)**	**3**	**Manufacturer's model name of the device**
>Device Serial Number	**(0018,1000)**	**3**	**Manufacturer's serial number of the device**
>Device ID	**(0018,1003)**	**3**	**User-supplied identifier for the device**
>Device Length	(0050,0014)	3	Length in mm of device. See C.7.6.12.1.1.
>Device Diameter	(0050,0016)	3	Unit diameter of device. See C.7.6.12.1.1.
>Device Diameter units	(0050,0017)	2C	Required if Device Diameter (0050,0016) is present. Defined terms: FR = French GA = Gauge IN = Inch MM = Millimeter
>Device Volume	(0050,0018)	3	Volume of device in ml. See C.7.6.12.1.1..
>Inter-Marker Distance	(0050,0019)	3	Distance in mm between markers on calibrated device. See C.7.6.12.1.1.
>Device Description	(0050,0020)	3	Further description in free form text describing the device.

C.7.6.12.1 Device Attribute Descriptions

C.7.6.12.1.1 Device Type and Size

Depending on the type of device specified by the Code Value (0008,0100) in an item of the Device Sequence (0050,0010), various device size attributes (e.g., Device Length (0050,0014), Device Diameter (0050,0016), Device Volume (0050,0018), Inter Marker Distance (0050,0019)) may be required to fully characterize the device.

Add to PS-3.6

Tag	Name	VR	VM
(0018,1003)	**Device ID**	**LO**	**1**

Amend to PS-3.16

CID 8 Angiographic Interventional Devices

Context ID 8

Angiographic Interventional Devices

Type: Extensible Version: 20020904

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3	A-25500	Stent~~, NOS~~
SNM3	A-26800	Catheter~~, NOS~~
SNM3	A-81080	Laser
SNM3	C-20005	Glue
SNM3	A-25600	Atherectomy device
SNM3	A-25614	Embolization ball
SNM3	A-26912	Percutaneous transluminal angioplasty balloon
SNM3	A-25612	Embolization coil
SNM3	A-25612	Gianturco coil
SNM3	A-27322	Detachable balloon
SNM3	A-26A06	Fixed object
SNM3	A-26A08	Grid
SNM3	A-26802	Guiding catheter
SNM3	A-25616	Embolization particulate
SNM3	A-25610	Rotational atherectomy device
SNM3	A-10141	Measuring ruler

CID 3451 Calibration Objects

Context ID 3451
Calibration Objects
Type: Extensible Version: 20040614

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	A-26800	Catheter
SRT	A-10141	Measuring Ruler
DCM	122485	Sphere

CID 4051 General Devices

Context ID 4051
General Devices
Type: Extensible Version: 20061023

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
INCLUDE CID 8 Angiographic Interventional Devices		
INCLUDE CID 3451 Calibration Objects		
INCLUDE CID 4052 Phantom Devices		

CID 4052 Phantom Devices

Context ID 4052
Phantom Devices
Type: Extensible Version: 20061023

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	113681	Phantom
DCM	113682	ACR Accreditation Phantom - CT
DCM	113683	ACR Accreditation Phantom - MR
DCM	113684	ACR Accreditation Phantom - Mammography
DCM	113685	ACR Accreditation Phantom – Stereotactic Breast Biopsy
DCM	113686	ACR Accreditation Phantom - ECT
DCM	113687	ACR Accreditation Phantom - PET
DCM	113688	ACR Accreditation Phantom – ECT/PET
DCM	113689	ACR Accreditation Phantom – PET Faceplate
DCM	113690	IEC Head Dosimetry Phantom
DCM	113691	IEC Body Dosimetry Phantom
DCM	113692	NEMA XR21-2000 Phantom

Amend to PS-3.16

Annex D DICOM Controlled Terminology Definitions (Normative)

This Annex specifies the meanings of codes defined in DICOM, either explicitly or by reference to another part of DICOM or an external reference document or standard.

DICOM Code Definitions (Coding Scheme Designator "DCM" Coding Scheme Version "01")

Code Value	Code Meaning	Definition	Notes
…			
113681	**Phantom**	**An artificial subject of an imaging study.**	
113682	**ACR Accreditation Phantom - CT**	**A phantom acceptable for the ACR Computed Tomography Accreditation program**	
113683	**ACR Accreditation Phantom - MR**	**A phantom acceptable for the ACR Magnetic Resonance Imaging Accreditation program**	
113684	**ACR Accreditation Phantom - Mammography**	**A phantom acceptable for the ACR Mammography Accreditation program**	
113685	**ACR Accreditation Phantom – Stereotactic Breast Biopsy**	**A phantom acceptable for the ACR Stereotactic Breast Biopsy Accreditation program**	
113686	**ACR Accreditation Phantom - ECT**	**A phantom acceptable for the ACR SPECT Accreditation program (but not for PET)**	
113687	**ACR Accreditation Phantom - PET**	**A phantom acceptable for the ACR PET Accreditation program (but not for SPECT)**	
113688	**ACR Accreditation Phantom – ECT/PET**	**A SPECT phantom with a PET faceplate acceptable for both the ACR SPECT and PET Accreditation programs**	
113689	**ACR Accreditation Phantom – PET Faceplate**	**A PET faceplate (made to fit an existing flangeless or flanged ECT phantom) acceptable for the ACR PET Accreditation program**	
113690	**IEC Head Dosimetry Phantom**	**A phantom acceptable for head dosimetry measurements according to IEC 60601-2-44, Ed.2.1**	
113691	**IEC Body Dosimetry Phantom**	**A phantom acceptable for body dosimetry measurements according to IEC 60601-2-44,**	

		Ed.2.1	
113692	**NEMA XR21-2000 Phantom**	**A phantom in accordance with NEMA standard XR-21-2000**	