DICOM Correction Proposal

STATUS	Letter Ballot
Date of Last Update	2016/01/18
Person Assigned	Harry Solomon
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Submission Date	2015/09/16

Correction Number CP-1538
Log Summary: Correct IOD relationship to Info Model
Name of Standard PS3.3 + Supplements 156, 181, 184
Rationale for Correction: Due to poor language editing at the dawn of DICOM history, and decades of mindless copy-and-paste in the creation of Supplements, many IODs incorrectly state that the components of the DICOM Information Model reference the IOD, whereas the correct language would be that the IOD is based on the model. Further, many IOD E-R descriptions state that the Frame of Reference IE is not used, when it now is (having been added to support time synchronization). Further, many IODs state that they do not use IEs (such as Modality LUT) that are no longer recognized as IEs. Further, some IODs do not have a section describing their E-R model. It is important to fix these errors and make the language consistent before confusion arises in the course of translation into other languages. See also CP1533 for a clean-up of the model.
Correction Wording: Use the following standard text: “The <x> IOD uses the E-R Model in Section A.1.2, with only the <y> IE below the Series IE. [The Frame of Reference IE is not a component of this IOD.]”

A.2.2 CR Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the CR Image IOD. The Frame of Reference IE, Overlay IE, Modality LUT IE, VOI LUT IE and Curve IE are not components of the CR Image IOD.~~

The CR Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.3.2 CT Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the CT Image IOD. The Overlay IE, Modality LUT IE, VOI LUT IE and Curve IE are not components of the CT Image IOD.~~

The CT Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.4.2 MR Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the MR Image IOD. The Overlay IE, Modality LUT IE, VOI LUT IE and Curve IE are not components of the MR Image IOD.~~

The MR Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.5.2 NM Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the NM Image IOD. The Modality LUT IE is not a component of the NM Image IOD.~~

The NM Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.6.2 US Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the US Image IOD. The Overlay IE, Modality LUT IE and VOI LUT IE are not components of the US Image IOD.~~

The US Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.7.2 US Multi-frame Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the US Multi-frame Image IOD. The Overlay IE, Modality LUT IE and VOI LUT IE are not components of the US Multi-frame Image IOD.~~

The US Multi-frame Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.8.1.2 SC Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Secondary Capture Image IOD. The Frame of Reference IE and Curve IE are not components of this IOD.~~

The Secondary Capture Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.8.2.2 Multi-frame Single Bit SC Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Secondary Capture Image family of IODs. The Frame of Reference IE, Overlay IE, Modality LUT IE, VOI LUT IE and Curve IE are not components of this IOD.~~

The Multi-frame Single Bit SC Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.8.3.2 Multi-frame Grayscale Byte SC Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Secondary Capture Image family of IODs. The Frame of Reference IE, Overlay IE, Modality LUT IE and Curve IE are not components of this IOD.~~

The Multi-frame Grayscale Byte SC Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.8.4.2 Multi-frame Grayscale Word SC Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Secondary Capture Image family of IODs. The Frame of Reference IE, Overlay IE, Modality LUT IE and Curve IE are not components this IOD.~~

The Multi-frame Grayscale Word SC Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.8.5.2 Multi-frame True Color SC Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Secondary Capture Image family of IODs. The Frame of Reference IE, Overlay IE, Modality LUT IE, VOI LUT IE and Curve IE are not components of the this IOD.~~

The Multi-frame True Color SC Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.14.2 XA Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the X-Ray Angiographic Image IOD, with exception of the Frame of Reference and Modality LUT entities, which are not used. Additionally, "Image" in Figure A.1-1 may represent a single frame or a multi-frame image. A frame denotes a two-dimensional organization of pixels recorded as a single exposure.~~

The XA Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.16.2 XRF Image IOD Entity-Relationship Model

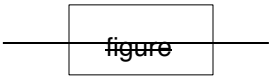
~~The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the X-Ray RF Image IOD, with exception of the Frame of Reference entity that is not used. Additionally, "Image" in Figure A.1-1 may represent a single frame or a multi-frame image. A frame denotes a two-dimensional organization of pixels recorded as a single exposure.~~

The X-Ray RF Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.17.2 RT Image IOD Entity-Relationship Model

~~The E-R model for the RT Image IOD is illustrated in Figure A.17-1.~~

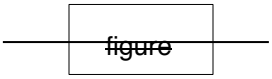
The RT Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.



~~Figure A.17-1. DICOM RT Image IOD Information Model~~

A.18.2 RT Dose IOD Entity-Relationship Model

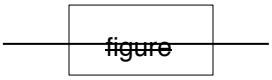
~~The E-R model for the RT Dose IOD is illustrated in Figure A.18-1.~~
The RT Dose IOD uses the E-R Model in Section A.1.2, with only the Dose IE below the Series IE.



~~Figure A.18-1. DICOM RT Dose IOD Information Model~~

A.19.2 RT Structure Set IOD Entity-Relationship Model

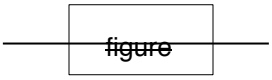
~~The E-R model for the RT Structure Set IOD is illustrated in Figure A.18-1.~~
The RT Structure Set IOD uses the E-R Model in Section A.1.2, with only the Structure Set IE below the Series IE.



~~Figure A.19-1. DICOM RT Structure Set IOD Information Model~~

A.20.2 RT Plan IOD Entity-Relationship Model

~~The E-R model for the RT Plan IOD is illustrated in Figure A.18-1.~~
The RT Plan IOD uses the E-R Model in Section A.1.2, with only the Plan IE below the Series IE.



~~Figure A.20-1. DICOM RT Plan IOD Information Model~~

A.21.2 PET Image IOD Entity-Relationship Model

~~The E-R model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the PET Image IOD. The overlay IE, modality LUT IE, VOI LUT IE, and curve IE are not components of the PET Image IOD.~~
The PET Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.26.2 DX Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the DX Image IOD.~~
The DX Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.27.1 Digital Mammography X-Ray Image IOD Description

A.27.2 Digital Mammography X-Ray Image IOD Entity-Relationship Model

The Digital Mammography X-Ray Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.27.2~~2~~3 Digital Mammography X-Ray Image IOD Module Table

A.28.1 Digital Intra-Oral X-Ray Image IOD Description

A.28.2 Digital Intra-Oral X-Ray Image IOD Entity-Relationship Model

The Digital Intra-Oral X-Ray Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.28.2~~2~~3 Digital Intra-Oral X-Ray Image IOD Module Table

A.29.2 RT Beams Treatment Record IOD Entity-Relationship Model

~~The E-R model for the RT Beams Treatment Record IOD is illustrated in Figure A.29-1.~~
The RT Beams Treatment Record IOD uses the E-R Model in Section A.1.2, with only the Treatment Record IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

~~figure~~

~~Figure A.29-1. DICOM RT Beams Treatment Record IOD Information Model~~

A.30.2 RT Brachy Treatment Record IOD Entity-Relationship Model

~~The E-R model for the RT Brachy Treatment Record IOD is illustrated in Figure A.30-1.~~
The RT Brachy Treatment Record IOD uses the E-R Model in Section A.1.2, with only the Treatment Record IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

~~figure~~

~~Figure A.30-1. DICOM RT Brachy Treatment Record IOD Information Model~~

A.31.2 RT Treatment Summary Record IOD Entity-Relationship Model

~~The E-R model for the RT Treatment Summary Record IOD is illustrated in Figure A.31-1.~~
The RT Treatment Summary Record IOD uses the E-R Model in Section A.1.2, with only the Treatment Record IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

~~figure~~

~~**Figure A.31-1. DICOM RT Treatment Summary Record IOD Information Model**~~

A.32.1.2 VL Endoscopic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the VL Endoscopic Image IOD, with exception of the VOI LUT, Frame of Reference and Modality LUT entities, which are not used. Additionally, Image in Figure A.1-1 represents a Single Frame image. A frame denotes a two-dimensional organization of pixels recorded as a single exposure.~~

The VL Endoscopic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

Table A.32.1-1 specifies the Modules of the VL Endoscopic Image IOD.

A.32.2.2 VL Microscopic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that are referenced by the VL Microscopic Image IOD. Below the Series IE, only the Image IE is used, which represents a single frame image.~~

The VL Microscopic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

Table A.32.1-2 specifies the Modules of the VL Microscopic Image IOD.

A.32.3.2 VL Slide-coordinates Microscopic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that are referenced by the VL Slide-Coordinates Microscopic Image IOD. Below the Series IE, only the Image IE is used, which represents a single frame image.~~

The VL Slide-coordinates Microscopic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

Table A.32.1-3 specifies the Modules of the VL Slide-Coordinates Microscopic Image IOD.

A.32.4.2 VL Photographic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the VL Photographic Image IOD, with exception of the VOI LUT, Frame of Reference and Modality LUT entities, which are not used. Additionally, Image in Figure A.1-1 represents a Single Frame image. A frame denotes a two-dimensional organization of pixels recorded as a single exposure.~~

The VL Photographic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

Table A.32.4-1 specifies the Modules of the VL Photographic Image IOD.

A.32.5.2 Video Endoscopic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Video Endoscopic Image IOD, with exception of the VOI LUT, and Modality LUT entities, which are not used.~~

The Video Endoscopic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

Table A.32.5-1 specifies the Modules of the Video Endoscopic Image IOD.

A.32.6.2 Video Microscopic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Video Microscopic Image IOD, with exception of the VOI LUT, and Modality LUT entities, which are not used.~~
The Video Microscopic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

Table A.32.6-1 specifies the Modules of the Video Microscopic Image IOD.

A.32.7.2 Video Photographic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Video Photographic Image IOD, with exception of the VOI LUT and Modality LUT entities, which are not used.~~
The Video Photographic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

Table A.32.7-1 specifies the Modules of the Video Photographic Image IOD.

A.33.1.1 Grayscale Softcopy Presentation State IOD Description

A.33.1.2 Grayscale Softcopy Presentation State IOD Entity-Relationship Model

The Grayscale Softcopy Presentation State IOD uses the E-R Model in Section A.1.2, with only the Presentation State IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.33.1.~~2~~3 Grayscale Softcopy Presentation State IOD Module Table

A.33.2.1 Color Softcopy Presentation State IOD Description

A.33.2.2 Color Softcopy Presentation State IOD Entity-Relationship Model

The Color Softcopy Presentation State IOD uses the E-R Model in Section A.1.2, with only the Presentation State IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.33.2.~~2~~3 Color Softcopy Presentation State IOD Module Table

A.33.3.1 Pseudo-color Softcopy Presentation State IOD Description

A.33.3.2 Pseudo-Color Softcopy Presentation State IOD Entity-Relationship Model

The Pseudo-Color Softcopy Presentation State IOD uses the E-R Model in Section A.1.2, with only the Presentation State IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.33.3.~~2~~3 Pseudo-Color Softcopy Presentation State IOD Module Table

A.33.4.1 Blending Softcopy Presentation State IOD Description

A.33.4.2 Blending Softcopy Presentation State IOD Entity-Relationship Model

The Blending Softcopy Presentation State IOD uses the E-R Model in Section A.1.2, with only the Presentation State IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.33.4.~~2~~3 Blending Softcopy Presentation State IOD Module Table

A.33.5.1 Basic Structured Display IOD Description

A.33.5.2 Basic Structured Display IOD Entity-Relationship Model

The Basic Structured Display State IOD uses the E-R Model in Section A.1.2, with only the Presentation State IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.33.5.3 Basic Structured Display IOD Module Table

A.33.6.1 XA/XRF Grayscale Softcopy Presentation State IOD Description

A.33.6.2 XA/XRF Grayscale Softcopy Presentation State IOD Entity-Relationship Model

The XA/XRF Grayscale Softcopy Presentation State IOD uses the E-R Model in Section A.1.2, with only the Presentation State IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.33.6.~~2~~3 XA/XRF Grayscale Softcopy Presentation State IOD Module Table

A.34.1 Waveform IOD Entity-Relationship Model

~~The Waveform E-R Model is shown in Figure A.34-1. This model applies to a variety of Waveform IODs.~~
The Waveform IODs use the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

~~figure~~

~~Figure A.34-1. DICOM Waveform IOD Information Model~~

A.34.2.2 Basic Voice Audio IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the Basic Voice Audio IOD.~~
The Basic Voice Audio IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.3.2 12-Lead ECG IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the 12-Lead ECG IOD.~~

The 12-Lead ECG IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.4.2 General ECG IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the General ECG IOD.~~
The General ECG IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.5.2 Ambulatory ECG IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the Ambulatory ECG IOD.~~
The Ambulatory ECG IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.6.2 Hemodynamic IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the Hemodynamic IOD.~~
The Hemodynamic IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.7.2 Basic Cardiac EP IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the Cardiac EP IOD.~~
The Basic Cardiac EP IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.8.2 Arterial Pulse Waveform IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the Arterial Pulse Waveform IOD.~~
The Arterial Pulse Waveform IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.9.2 Respiratory Waveform IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the Respiratory Waveform IOD.~~
The Respiratory Waveform IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.34.10.2 General Audio Waveform IOD Entity-Relationship Model

~~The E-R Model in Section A.34.1 applies to the General Audio Waveform IOD.~~
The General Audio Waveform IOD uses the E-R Model in Section A.1.2, with only the Waveform IE below the Series IE.

A.35.1.2 Basic Text SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Basic Text SR IOD. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 are not components of the Basic Text SR IOD. Table A.35.1-1 specifies the Modules of the Basic Text SR IOD.~~

The Basic Text SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.2.2 Enhanced SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Enhanced SR IOD. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 are not components of the Enhanced SR IOD. Table A.35.2-1 specifies the Modules of the Enhanced SR IOD.~~

The Enhanced SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.3.2 Comprehensive SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Comprehensive SR IOD. The IEs at the level of the Image IE in Section A.1.2 are not components of the Comprehensive SR IOD. Table A.35.3-1 specifies the Modules of the Comprehensive SR IOD.~~

The Comprehensive SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.4.2 Key Object Selection Document IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Key Object Selection Document IOD. Table A.35.4-1 specifies the Modules of the Key Object Selection Document IOD.~~

The Key Object Selection Document IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.5.2 Mammography CAD SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Mammography CAD SR IOD. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 are not components of the Mammography CAD SR IOD. Table A.35.5-1 specifies the Modules of the Mammography CAD SR IOD.~~

The Mammography CAD SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.6.2 Chest CAD SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Chest CAD SR IOD. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 are not components of the Chest CAD SR IOD. Table A.35.6-1 specifies the Modules of the Chest CAD SR IOD.~~

The Chest CAD SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.7.2 Procedure Log IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Procedure Log IOD. Table A.35.7-1 specifies the Modules of the Procedure Log IOD.~~

The Procedure Log IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE.

Note

Unlike some other SR IODs, the Frame of Reference IE is critical to the synchronized time stamping of events in the Procedure Log IOD and to multi-modality coordination.

A.35.8.2 X-Ray Radiation Dose SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the X-Ray Radiation Dose SR IOD. Table A.35.8-1 specifies the Modules of the X-Ray Radiation Dose SR IOD.~~

The X-Ray Radiation Dose SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE.

A.35.9.2 Spectacle Prescription Report IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Spectacle Prescription Report IOD.~~

The Spectacle Prescription Report IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.10.2 Colon CAD SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Colon CAD SR IOD. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 are not components of the Colon CAD SR IOD. Table A.35.10-1 specifies the Modules of the Colon CAD SR IOD.~~

The Colon CAD SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.11.2 Macular Grid Thickness and Volume Report IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Macular Grid Thickness and Volume Report IOD. Table A.35.11-1 specifies the Modules of the Thickness and Macular Volume Report IOD.~~

The Macular Grid Thickness and Volume Report IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.12.2 Implantation Plan SR Document IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Implantation Plan SR Document. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 are not components of the Implantation Plan SR Document IOD. Table A.35.12-1 specifies the Modules of the Implantation Plan SR Document IOD.~~

The Implantation Plan SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.35.13.2 Comprehensive 3D SR IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 applies to the Comprehensive 3D SR IOD. The IEs at the level of the Image IE in Section A.1.2 are not components of the Comprehensive 3D SR IOD. Table A.35.13-1 specifies the Modules of the Comprehensive 3D SR IOD.~~

The Comprehensive 3D SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE.

A.35.14.2 Radiopharmaceutical Radiation Dose SR IOD Entity-relationship Model

~~The E-R Model in Section A.1.2 of this Part applies to the Radiopharmaceutical Radiation Dose SR IOD. Table A.35.14-1 specifies the Modules of the Radiopharmaceutical Radiation Dose SR IOD.~~

The Radiopharmaceutical Radiation Dose SR IOD uses the E-R Model in Section A.1.2, with only the SR Document IE below the Series IE.

A.35.14.3 Radiopharmaceutical Radiation Dose SR IOD Module Table

Table A.35.14-1 specifies the Modules of the Radiopharmaceutical Radiation Dose SR IOD.

A.36.2.2 Enhanced MR Image Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model, which directly reference the Enhanced MR Image IOD.~~

The Enhanced MR Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.36.3.2 MR Spectroscopy Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model, which directly reference the MR Spectroscopy IOD.~~

The MR Spectroscopy IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.36.4.2 Enhanced MR Color Image Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model, which directly reference the Enhanced MR Color Image IOD.~~

The Enhanced MR Color Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.37.2 Raw Data Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model, which directly reference the Raw Data IOD.~~

The Raw Data IOD uses the E-R Model in Section A.1.2, with only the Raw Data IE below the Series IE.

A.38.1.2 Enhanced CT Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Enhanced CT Image IOD.~~

The Enhanced CT Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.39.1.2 Spatial Registration IOD Entity-Relationship Model

The Spatial Registration IOD uses the E-R Model in Section A.1.2, with only the Registration IE below the Series IE.

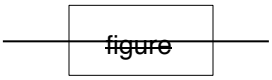


Figure A.39-1. Spatial Registration Information Object Definition E-R Model

A.39.2.2 Deformable Spatial Registration IOD Entity-Relationship Model

The E-R Model for the Deformable Spatial Registration IOD is identical to the E-R Model for the Spatial Registration IOD in Figure A.39-1.

The Deformable Spatial Registration IOD uses the E-R Model in Section A.1.2, with only the Registration IE below the Series IE.

A.40.2 Spatial Fiducials IOD Entity-Relationship Model

The Spatial Fiducials IOD uses the E-R Model in Section A.1.2, with only the Spatial Fiducials IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

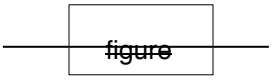


Figure A.40-1. Spatial Fiducials Information Object Definition E-R Model

A.41.2 Ophthalmic Photography 8 Bit Image IOD Entity-Relationship Model

The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Ophthalmic Photography 8-Bit Image IOD, with exception of the VOI LUT, and Modality LUT entities, which are not used.

The Ophthalmic Photography 8 Bit Enhanced Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

Table A.41-1 specifies the Modules of the Ophthalmic Photography 8 Bit Image IOD.

A.42.2 Ophthalmic Photography 16 Bit Image IOD Entity-Relationship Model

The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Ophthalmic Photography 16 Bit Image IOD, with exception of the VOI LUT, Frame of Reference and Modality LUT entities, which are not used.

The Ophthalmic Photography 16 Bit Enhanced Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

Table A.42-1 specifies the Modules of the Ophthalmic Photography 16 Bit Image IOD.

A.43.1 Stereometric Relationship IOD Entity-Relationship Model

The Stereometric Relationship IOD uses the E-R Model in Section A.1.2, with only the Stereometric Relationship IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

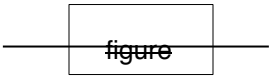


Figure A.43-1. Stereometric Relationship Information Object Definition E-R Model

A.46.1 Real World Value Mapping IOD Entity-Relationship Model

The Real World Value Mapping IOD uses the E-R Model in Section A.1.2, with only the Real World Value Mapping IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

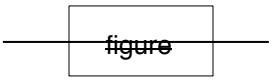


Figure A.46-1. Real World Value Mapping Information Object Definition E-R Model

A.47.2 Enhanced XA Image IOD Entity-Relationship Model

The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the enhanced X-Ray Angiographic Image IOD. Additionally, "Image" in Figure A.1-1 may represent a single frame or a multi-frame image. A frame denotes a two-dimensional organization of pixels recorded as a single exposure.

The Enhanced XA Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.48.2 Enhanced XRF Image IOD Entity-Relationship Model

The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the X-Ray RF Image IOD. Additionally, "Image" in Figure A.1-1 may represent a single frame or a multi-frame image. A frame denotes a two-dimensional organization of pixels recorded as a single exposure.

The Enhanced XRF Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.49 RT Ion Plan IOD

A.49.1 RT Ion Plan IOD Description

…

A.49.2 RT Ion Plan IOD Entity-Relationship Model

The RT Ion Plan IOD uses the E-R Model in Section A.1.2, with only the Plan IE below the Series IE.

A.49.23 RT Ion Plan IOD Modules

A.50 RT Ion Beams Treatment Record IOD

A.50.1 RT Ion Beams Treatment Record IOD Description

…

A.50.2 RT Ion Beams Treatment Record IOD Entity-Relationship Model

The RT Ion Beams Treatment Record IOD uses the E-R Model in Section A.1.2, with only the Treatment Record IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

A.50.~~2~~3 RT Ion Beams Treatment Record IOD Modules

A.51.2 Segmentation IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Segmentation IOD. The Segmentation is a kind of Image.~~
The Segmentation IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.51.3 Segmentation IOD Module Table

Table A.51-1. Segmentation IOD Modules

IE	Module	Reference	Usage
…			
Equipment	General Equipment	C.7.5.1	M
	Enhanced General Equipment	C.7.5.2	M
~~Segmentation~~ Image	General Image	C.7.6.1	M
	Image Pixel	C.7.6.3	M
	…		
	SOP Common	C.12.1	M
	Frame Extraction	C.12.3	C - Required if the SOP Instance was created in response to a Frame-Level retrieve request

A.52.2 Ophthalmic Tomography Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Ophthalmic Tomography Image IOD.~~
The Ophthalmic Tomography Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

Table A.52.3-1 specifies the Modules of the Ophthalmic Tomography Image IOD.

A.53.2 X-Ray 3D Angiographic Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the X-Ray 3D Angiographic Image IOD.~~

The X-Ray 3D Angiographic Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.54.2 X-Ray 3D Craniofacial Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the X-Ray 3D Craniofacial Image IOD.~~
The X-Ray 3D Craniofacial Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.55.2 Breast Tomosynthesis Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the Breast Tomosynthesis Image IOD.~~
The Breast Tomosynthesis Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.56.2 Enhanced PET Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Enhanced PET Image IOD.~~
The Enhanced PET Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.57.2 Surface Segmentation IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Surface Segmentation IOD.~~ The Surface Segmentation uses a polygonal surface mesh representation to define the contained surfaces. **The Surface Segmentation IOD uses the E-R Model in Section A.1.2, with only the Surface IE below the Series IE.**

A.59.2 Enhanced US Volume IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that comprise the Enhanced US Volume IOD.~~
The Enhanced US Volume IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.64.2 RT Beams Delivery Instruction IOD Entity-Relationship Model

~~The E-R Model in Figure A.64-1 depicts those components of the DICOM Information Model that directly reference the RT Beams Delivery Instruction IOD. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 other than the Instruction IE are not components of the RT Beams Delivery Instruction IOD.~~
The RT Beams Delivery Instruction IOD uses the E-R Model in Section A.1.2, with only the Plan IE below the Series IE. The Frame of Reference IE is not a component of this IOD.

~~figure~~

~~Figure A.64-1. DICOM RT Beams Delivery Instruction IOD Information Model~~

A.70.2 Legacy Converted Enhanced CT Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Legacy Converted Enhanced CT Image IOD.~~

The Legacy Converted Enhanced CT Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.71.2 Legacy Converted Enhanced MR Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Legacy Converted Enhanced MR Image IOD.~~

The Legacy Converted Enhanced MR Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.72.2 Legacy Converted Enhanced PET Image IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Legacy Converted Enhanced PET Image IOD.~~

The Legacy Converted Enhanced PET Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.74.2 Breast Projection X-Ray Image IOD Entity-relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Application Information Model that directly reference the Breast Projection X-Ray Image IOD. Additionally, "Image" in Section A.1.1 may represent a Single Frame or a Multi-Frame image. A frame denotes a two-dimensional organization of pixels recorded as a single exposure.~~

The Breast Projection X-Ray Image IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.

A.75.2 Parametric Map IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Parametric Map IOD.~~ The Parametric Map is a kind of Image. **The Parametric Map IOD uses the E-R Model in Section A.1.2, with only the Image IE below the Series IE.**

Correct the text from Sup156 when merged into the consolidated publication.

A.X.x1.1 Planar MPR Volumetric Presentation State Description

… These are distinguished by their SOP Class UID and by the Enumerated Value of the mandatory Attribute in the Volumetric Presentation State Display Module, Pixel Presentation (0008,9205).

A.X.x1.2 Planar MPR Volumetric Presentation State IOD Entity-Relationship Model

The Planar MPR Volumetric Presentation State IOD uses the E-R Model in Section A.1.2, with only the Presentation State IE below the Series IE.

A.X.x1.~~2~~3 Planar MPR Volumetric Presentation State IOD Module Table

Correct the text from Sup181 when merged into the consolidated publication.

A.X.2 Tractography Results IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the Tractography Results IOD.~~ **The Tractography Results IOD uses the E-R Model in Section A.1.2, with only the Tractography Results IE below the Series IE.**

Correct the text from Sup184 when merged into the consolidated publication.

A.TT.2 RT Brachy Application Setup Delivery Instruction IOD Entity-Relationship Model

~~The E-R Model in Section A.1.2 depicts those components of the DICOM Information Model that directly reference the RT Brachy Application Setup Delivery Instruction IOD.~~ **The RT Brachy Application Setup Delivery Instruction IOD uses the E-R Model in Section A.1.2, with only the Plan IE below the Series IE. The Frame of Reference IE is not a component of this IOD.**