

DICOM Correction Proposal

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Correction Number	CP-1660
Log Summary: Dose Measurement Type in RTSTRUCT	
Name of Standard PS3.3, PS3.6, PS3.16 2017c	
Rationale for Correction: The current list of Defined Terms for RT ROI Interpreted Type (3006,00A4) already covers some “artificial” types that are not anatomy-specific but rather relate to setup or dose optimization. A new term is added to this list that describes artificial ROIs that stem from the area of QA procedures. To represent those devices by coded entries in more detail, a new CIDs is added. This CID refers to radiotherapeutic dose measurement devices. The existing CID 10010 Dose Measurement Devices has been considered, but does not apply in this context.	
Correction Wording:	

In PS 3.3, Section C.8.8.8 RT ROI Observations Module, Table C.8-44, make the following changes:

C.8.8.8 RT ROI Observations Module

The RT ROI Observations module specifies the identification and interpretation of an ROI specified in the Structure Set Module and ROI Contour Module.

Table C.8-44 RT ROI OBSERVATIONS MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
RT ROI Observations Sequence	(3006,0080)	1	Sequence of observations related to ROIs defined in the ROI Module. One or more Items shall be included in this Sequence.
>Segmented Property Category Code Sequence	(0062,0003)	3	Sequence defining the general category of the property this ROI represents. Only a single Item is permitted in this Sequence. See Note 1.
>>Include Table 8.8-1 “Code Sequence Macro Attributes”			<i>No Baseline CID is defined.</i>
>RT ROI Identification Code Sequence	(3006,0086)	3	Sequence containing Code used to identify ROI. Only a single Item is permitted in this Sequence. See Note 2.

>>Include Table 8.8-1 "Code Sequence Macro Attributes"			<p><u>For dose measurement devices Baseline CID 7026 "Radiotherapeutic Dose Measurement Devices"</u></p> <p>No Baseline CID is defined <u>otherwise</u>.</p>
>...			
>RT ROI Interpreted Type	(3006,00A4)	2	<p>Type of ROI. See Section C.8.8.8.1.</p> <p>Defined Terms:</p> <p>EXTERNAL external patient contour</p> <p>PTV Planning Target Volume (as defined in ICRU50)</p> <p>CTV Clinical Target Volume (as defined in ICRU50)</p> <p>GTV Gross Tumor Volume (as defined in ICRU50)</p> <p>TREATED_VOLUME Treated Volume (as defined in ICRU50)</p> <p>IRRAD_VOLUME Irradiated Volume (as defined in ICRU50)</p> <p>BOLUS patient bolus to be used for external beam therapy</p> <p>AVOIDANCE region in which dose is to be minimized</p> <p>ORGAN patient organ</p> <p>MARKER patient marker or marker on a localizer</p> <p>REGISTRATION registration ROI</p> <p>ISOCENTER treatment isocenter to be used for external beam therapy</p> <p>CONTRAST_AGENT volume into which a contrast agent has been injected</p> <p>CAVITY patient anatomical cavity</p> <p>BRACHY_CHANNEL brachytherapy channel</p> <p>BRACHY_ACCESSORY brachytherapy accessory device</p> <p>BRACHY_SRC_APP brachytherapy source applicator</p> <p>BRACHY_CHNL_SHLD</p>

			brachytherapy channel shield SUPPORT external patient support device FIXATION external patient fixation or immobilization device DOSE_REGION ROI to be used as a dose reference CONTROL ROI to be used in control of dose optimization and calculation DOSE MEASUREMENT ROI representing a dose measurement device, such as a chamber or TLD.

Add the following CID to PS 3.16 Annex B:

CID 7026 RADIOTHERAPEUTIC DOSE MEASUREMENT DEVICES

Context ID 7026

Radiotherapeutic Dose Measurement Devices

Type: Extensible

Version: 20170914

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)	SNOMED-CT Concept ID
SRT	R-FCCF2	Medical x-ray film	706247001
DCM	128701	3D Gel	
DCM	128702	Diode Array	
DCM	128703	Ion Chamber Array	
SRT	R-FCE69	Thermoluminescent radiation dosimeter	464983000
DCM	128704	Diode	
DCM	128705	Liquid Ion Chamber	
SRT	R-FCC16	MOSFET radiation therapy dosimetry system dosimeter	701933006
DCM	128706	OSLD	
DCM	128707	Ion Chamber	
SRT	R-FD5EB	Digital imager	468440006
DCM	128708	Diamond Detector	

Add the following Codes to the table in PS3.16, Annex D:

Code Value	Code Meaning	Definition	Notes
128701	3D Gel	A volume of gel that changes physical characteristics when exposed to ionizing radiation.	
128702	Diode Array	A number of semiconductor devices that generates current when exposed to ionizing radiation. The devices are arranged systematically in a regular pattern.	
128703	Ion Chamber Array	A number of devices that measures charge from the ions produced in a medium when exposed to ionizing radiation. The devices are arranged systematically in a regular pattern.	
128704	Diode	A semiconductor device that generates current when exposed to ionizing radiation.	
128705	Liquid Ion Chamber	An ion chamber that uses a liquid as the medium.	
128706	OSLD	Optically Stimulated Luminescent Dosimeter. It is a crystal that when exposed to green light, emits blue light in proportion to the amount of ionizing radiation it has been exposed to.	
128707	Ion Chamber	A device that measures charge from the ions produced in a medium when exposed to ionizing radiation.	
128708	Diamond Detector	A semiconductor detector that uses diamond as the medium.	

Add the following new Context Group UID to the table in PS3.6, Annex A:

Table A-3. Context Group UID Values

Context UID	Context Identifier	Context Group Name
1.2.840.10008.6.1.1177	CID 7026	Radiotherapeutic Dose Measurement Devices