DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2022/12/01
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Submission Date	2022/03/01

Correction Number CP-2211
Log Summary: Add RPLGD dosimeter to Dose Measurement Device CIDs
Name of Standard PS 3.16 2022d
Rationale for Correction: Radiophotoluminescent glass dosimeters (RPLGD) are used to measure radiation field dose, personal radiation dose, and recently, range of diagnostic and radiotherapeutic radiation dose. This CP defines a code for RPLGD and adds it to CID 7026 Radiotherapeutic Dose Measurement Devices and CID 7027 Segmented Radiotherapeutic Dose Measurement Devices. Ref: ISO 22127:2019 Dosimetry with radiophotoluminescent glass dosimeters for dosimetry audit in MV X-ray radiotherapy Note: Both RPLGD and RPLD appear in literature. RPLGD is selected here as being more specific and accurate. RPLD is sometimes used to refer to the process of RPL dosimetry rather than to a dosimeter device itself.
Correction Wording:

Add code to CID 7026 Radiotherapeutic Dose Measurement Devices

CID 7026 Radiotherapeutic Dose Measurement Devices

Resources: **HTML | FHIR JSON | FHIR XML | IHE SVS XML**
Type: **Extensible**
Version: **~~20170914~~20221201**
UID: **1.2.840.10008.6.1.1177**

Table CID 7026. Radiotherapeutic Dose Measurement Devices

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	706247001	Medical x-ray film	R-FCCF2	C3873821
DCM	128701	3D Gel		
DCM	128702	Diode Array		
DCM	128703	Ion Chamber Array		
SCT	464983000	Thermoluminescent radiation dosimeter	R-FCE69	C3881975

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	128704	Diode		
DCM	128705	Liquid Ion Chamber		
SCT	701933006	MOSFET radiation therapy dosimetry system dosimeter	R-FCC16	C3872923
DCM	128706	OSLD		
DCM	128707	Ion Chamber		
SCT	468440006	Digital imager	R-FD5EB	C3877969
DCM	128708	Diamond Detector		
DCM	**128709**	**RPLGD**		

Add code to CID 7027 Segmented Radiotherapeutic Dose Measurement Devices

CID 7027 Segmented Radiotherapeutic Dose Measurement Devices

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
Type: Extensible
Version: ~~20190125~~20221201
UID: 1.2.840.10008.6.1.1276

Table CID 7027. Segmented Radiotherapeutic Dose Measurement Devices

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
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DCM	128706	OSLD		
DCM	128707	Ion Chamber		
SCT	468440006	Digital imager	R-FD5EB	C3877969
DCM	128708	Diamond Detector		
DCM	**128709**	**RPLGD**		

Add definition to PS 3.16 Annex D

Table D-1. DICOM Controlled Terminology Definitions

Code Value	Code Meaning	Definition	Notes
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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.	
128709	**RPLGD**	**A radiophotoluminescence glass dosimeter. It is a solid state cumulative radiation dosimeter usually made of silver-activated phosphate glass. The silver atoms act as radiophotoluminescence centers excited by ionizing radiation. The number of centers excited is proportional to the absorbed dose to the RPLGD.**	
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