

DICOM Correction Proposal

STATUS	Final Text
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Correction Number	CP-2218
Log Summary: Clarifying presence of Distance Source to Reference Point in TIDs 10007 and 10041	
Name of Standard PS3.16 2022e	
<p>Rationale for Correction:</p> <p>The Accumulated Dose RDSRs for X-Ray contain the EV (113737, DCM, "Distance Source to Reference Point") (Row 3 of TID 10007 Accumulated Total Projection Radiography Dose and Row 26 of TID 10041 Accumulated Dose Data).</p> <p>If this distance changes across the Irradiation Events of the same RDSR (i.e. due to table movement, or due to X-Ray source lift movement), it shall not be populated at the Accumulated level but at the Irradiation Event level.</p> <p>Sometimes this creates confusion to implementers when it is required to populate the Distance Source to Reference Point in RDSR. This CP adds a condition and notes in TID 10007 and TID 10041 for clarification.</p> <p>Workgroup 2/28 notes:</p> <ul style="list-style-type: none"> Regardless of changes in the Distance Source to Reference Point, (113780, DCM, "Reference Point Definition) will remain consistent across all radiation events. For example, for XA, see Patient Entrance Reference Point in 60601-2-43. This CP does not introduce backwards compatibility concerns, since it is formalizing a condition that exists in real life. 	
Correction Wording:	

Modify PS3.16 Section A. Structured Reporting Templates (Normative), TID 10007 Accumulated Total Projection Radiography Dose as follows:

Table TID 10007. Accumulated Total Projection Radiography Dose

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		NUM	EV (113722, DCM, "Dose Area Product Total")	1	M		UNITS = EV (Gy.m2, UCUM, "Gy.m2")
2		NUM	EV (113725, DCM, "Dose (RP) Total")	1	MC	IF TID 10001 Row 4 = (113958, DCM, "Integrated Projection Radiography System") or any of the values of TID (10001) Row 18 are not (113858, DCM, "MPPS Content").	UNITS = EV (Gy, UCUM, "Gy")
3		NUM	EV (113737, DCM, "Distance Source to Reference Point")	1	UC	<u>IFF the distance is constant for all irradiation events within the scope of accumulation.</u>	UNITS = EV (mm, UCUM, "mm")

4		NUM	EV (113731, DCM, "Total Number of Radiographic Frames")	1	U		UNITS = EV (1, UCUM, "no units")
5		CODE	EV (113780, DCM, "Reference Point Definition")	1	MC	IF any of (113725, DCM, "Dose (RP) Total"), (113728, DCM, "Fluoro Dose (RP) Total") or (113729, DCM, "Acquisition Dose (RP) Total") are present, and Row 6 is not present.	DCID 10025 "Radiation Dose Reference Points"
6		TEXT	EV (113780, DCM, "Reference Point Definition")	1	MC	IF any of (113725, DCM, "Dose (RP) Total"), (113728, DCM, "Fluoro Dose (RP) Total") or (113729, DCM, "Acquisition Dose (RP) Total") are present, and Row 5 is not present.	

Content Item Descriptions

Row 1	Accumulated Dose Area Product
Row 2	Accumulated dose relative to reference point.
Row 3	A single value for Radiography systems calculating reference point dose based on fixed a constant distance. <u>If this distance changes, it may only be populated in Row 11 of TID 10003C "Irradiation Event X-Ray Mechanical Data" on an irradiation event basis.</u>
Row 5	A coded definition of the Reference Point (RP) used for RP-related dose values.
Row 6	A text definition of the Reference Point (RP) used for RP-related dose values.

Modify PS3.16 Section A. Structured Reporting Templates (Normative), TID 10041 Accumulated Dose Data as follows:

Table TID 10041. Accumulated Dose Data

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130500, DCM, "Accumulated Dose Data")	1	M		
...								
20	>	CONTAINS	CONTAINER	EV (130502, DCM, "Reference Point Dosimetry")	1	U		
21	>>	CONTAINS	TEXT	EV (113780, DCM, "Reference Point Definition")	1	MC	XOR Row 22	
22	>>	CONTAINS	CODE	EV (113780, DCM, "Reference Point Definition")	1	MC	XOR Row 21	DCID 10025 "Radiation Dose Reference Point"
23	>>	CONTAINS	NUM	EV (113725, DCM, "Dose (RP) Total")	1	U		UNITS = EV (Gy, UCUM, "Gy")
24	>>	CONTAINS	NUM	EV (113728, DCM, "FluoroDose (RP) Total")	1	U		UNITS = EV (Gy, UCUM, "Gy")

25	>>	CONTAINS	NUM	EV (113729, DCM, "Acquisition Dose (RP) Total")	1	U		UNITS = EV (Gy, UCUM, "Gy")
26	>>	CONTAINS	NUM	EV (113737, DCM, "Distance Source to Reference Point")	1	UC	<u>IFF the distance is constant for all irradiation events within the scope of accumulation.</u>	UNITS = EV (mm, UCUM, "mm")
26a	>	CONTAINS	NUM	EV (130745, DCM, "CT Dose Length Product Sub-Total")	1-n	U		UNITS = EV (mGy.cm, UCUM, "mGy.cm")
26b	>>	HAS PROPERTIES	CODE	EV (113835, DCM, "CTDIw Phantom Type")	1	M		DCID 4052 "Phantom Device"
27	>	CONTAINS	NUM	EV (113812, DCM, "Total Number of Irradiation Events")	1	U		UNITS = EV ({events}, UCUM, "events")
28	>	CONTAINS	TEXT	EV (121106, DCM, "Comment")	1	U		

Content Item Descriptions

...	
Row 21	A text definition of the Reference Point (RP) used for RP-related dose values.
Row 22	A coded definition of the Reference Point (RP) used for RP-related dose values.
Row 23	Accumulated dose relative to reference point.
Row 24	The fluoroscopic component of the accumulated dose relative to reference point.
Row 25	The acquisition component of the accumulated dose relative to reference point.
Row 26	A single value for Radiography systems calculating reference point dose based on <u>fixed a constant</u> distance. <u>If this distance changes, it may only be populated in Row 13 of TID 10054 "Procedure Characteristics" on an irradiation event basis.</u>
Row 26a	The Dose Length Product (DLP) is calculated for every irradiation event. The Dose Length Product Sub-Total is the sum of the DLP values for all events within the scope of accumulation that use the same phantom.
Row 26b	The phantom used for the phantom-specific sub-total DLP estimate; shall be that specified at the irradiation event level in TID 10042 "Irradiation Event Summary Data" Row 29 for the events included in the sub-total.
Row 27	Total Number of irradiation events.