

DICOM Correction Proposal

STATUS	Letter Ballot
Date of Last Update	2024/01/14
Person Assigned	Nick Bevins
Submitter Name	Nick Bevins on behalf of WG02/28
Submission Date	2023/05/24

Correction Number	CP-2317
Log Summary:	Duplicate RP definition in RDSR
Name of Standard	PS3.16
Rationale for Correction:	<p>The X-Ray RDSR requires the implementor to provide a reference point definition on a per-irradiation-event basis under certain conditions. The current conditions in TIDs 10003 and 10003B were written under the idea that mammography implementations would use Rows 22-24 of TID 10003 to provide irradiation event level exposure information at a reference point, while projection X-Ray implementations would provide irradiation event level dose (RP) information in Rows 1-3 of TID 10003B. Because IF statements are used in the conditions (rather than IFF), an implementor could choose to populate both areas for either mammography or projection X-Ray. This may lead to an implementation with duplicate (and potentially conflicting) definitions of the reference point for each irradiation event.</p> <p>The proposed correction replaces the IF statement with IFF when determining which area to populate based on EV (121058, DCM, "Procedure reported") from Row 2 of the root TID 10001. Next, it limits the reference point definitions to only be allowed under the intended circumstances.</p>
Correction Wording:	

Modify Part 16 as follows

TID 10003 Irradiation Event X-Ray Data

Table TID 10003. Irradiation Event X-Ray Data

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (113706, DCM, "Irradiation Event X-Ray Data")	1	M		
2	>	HAS CONCEPT MOD	CODE	EV (113764, DCM, "Acquisition Plane")	1	M		DCID 10003 "Equipment Plane Identification"
3	>	CONTAINS	UIDREF	EV (113769, DCM, "Irradiation Event UID")	1	M		
4	>	CONTAINS	TEXT	EV (113605, DCM, "Irradiation Event	1	U		

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
				Label")				
5	>>	HAS CONCEPT MOD	CODE	EV (113606, DCM, "Label Type")	1	MC	IF the value of Row 4 is the value of an Attribute in the images.	DCID 10022 "Label Type"
5a	>	CONTAINS	CODE	EV (128551, DCM, "Is Repeated Acquisition")	1	U		DCID 231 "Yes-No Only"
5b	>>	HAS CONCEPT MOD	CODE	EV (128552, DCM, "Reason for Repeating Acquisition")	1	MC	IFF value of Row 5a = (373066001, SCT, "Yes")	DCID 10034 "Reason for Repeating Acquisition" DCID 7011 "Rejected for Quality Reason"
5c	>>	HAS PROPERTIES	UIDREF	EV (113769, DCM, "Irradiation Event UID")	1	UC	IFF value of Row 5a = (373066001, SCT, "Yes")	
6	>	CONTAINS	DATETIME	DT (111526, DCM, "DateTime Started")	1	M		
7	>	CONTAINS	CODE	EV (113721, DCM, "Irradiation Event Type")	1	M		DCID 10002 "Irradiation Event Type"
8	>	CONTAINS	TEXT	EV (125203, DCM, "Acquisition Protocol")	1	U		
11	>	CONTAINS	CODE	EV (111031, DCM, "Image View")	1	U		DCID 4010 "DX View" DCID 4014 "View for Mammography"
12	>>	HAS CONCEPT MOD	CODE	EV (111032, DCM, "Image View Modifier")	1-n	U		DCID 4011 "DX View Modifier" DCID 4015 "View Modifier for Mammography"
13	>>	CONTAINS	CODE	EV (113946, DCM, "Projection Eponymous Name")	1	U		DCID 4012 "Projection Eponymous Name"
14	>	CONTAINS	CODE	EV (113745, DCM, "Patient Table Relationship")	1	U		DCID 21 "Patient Equipment Relationship"
15	>	CONTAINS	CODE	EV (113743, DCM, "Patient Orientation")	1	U		DCID 19 "Patient Orientation"
16	>>	HAS CONCEPT MOD	CODE	EV (113744, DCM, "Patient Orientation Modifier")	1	M		DCID 20 "Patient Orientation Modifier"

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
17	>	CONTAINS	CODE	EV (123014, DCM, "Target Region")	1	M		DCID 4031 "Common Anatomic Region"
17b	>>	HAS CONCEPT MOD	CODE	EV (272741003, SCT, "Laterality")	1	UC	If anatomy is bi-lateral	DCID 244 "Laterality"
18	>	CONTAINS	NUM	EV (122130, DCM, "Dose Area Product")	1	MC	IFF TID 10001 Row 2 = (113704, DCM, "Projection X-Ray")	UNITS = EV (Gy.m2, UCUM, "Gy.m2")
19	>	CONTAINS	NUM	EV (111634, DCM, "Half Value Layer")	1	U		UNITS = EV (mm, UCUM, "mm")
20	>	CONTAINS	NUM	EV (111638, DCM, "Patient Equivalent Thickness")	1	U		UNITS = EV (mm, UCUM, "mm")
21	>	CONTAINS	NUM	EV (111636, DCM, "Entrance Exposure at RP")	1	MC	IF IFF (TID 10001 Row 2 = (71651007, SCT, "Mammography")) and AND IF ((TID (10001) Row 9 is absent or value is (373066001, SCT, "Yes")) and AND (TID (10001) Row 10 is absent or value is (373066001, SCT, "Yes"))))	UNITS = EV (mGy, UCUM, "mGy")
22	>	CONTAINS	TEXT	EV (113780, DCM, "Reference Point Definition")	1	MC	IF Row 21 is present and Row 23 is not present IFF Row 21 is present XOR Row 23	
23	>	CONTAINS	CODE	EV (113780, DCM, "Reference Point Definition")	1	MC	IF Row 21 is present and Row 22 is not present IFF Row 21 is present XOR Row 22	DCID 10025 "Radiation Dose Reference Point"

Content Item Descriptions

Row 21 22	A text definition of the Reference Point (RP) used for RP-related dose values.
Row 22 23	A coded definition of the Reference Point (RP) used for RP-related dose values

Modify PS3.16 as follows

TID 10003B Irradiation Event X-Ray Source Data

This Template contains data that is expected to be available to the X-Ray source component of the equipment.

Type: Extensible
Order: Non-Significant
Root: No

Table TID 10003B. Irradiation Event X-Ray Source Data

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			NUM	EV (113738, DCM, "Dose (RP)")	1	MC	IF IFF (TID 10001 Row 2 = (113704, DCM, "Projection X-Ray")) AND IF any of the values of TID (10001) Row 18 are not (113858, DCM, "MPPS Content")	UNITS = EV (Gy, UCUM, "Gy")
2			TEXT	EV (113780, DCM, "Reference Point Definition")	1	MC	IF Row 1 is present and Row 3 is not present IFF Row 1 is present XOR Row 3	
3			CODE	EV (113780, DCM, "Reference Point Definition")	1	MC	IF Row 1 is present and Row 2 is not present IFF Row 1 is present XOR Row 2	DCID 10025 "Radiation Dose Reference Point"

Content Item Descriptions

Row 1	Dose applied by this irradiation event, relative to defined reference point.
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