

# DICOM Correction Proposal

STATUS	Letter Ballot
Date of Last Update	2023/11/13
Person Assigned	Nick Bevins
Submitter Name	Nick Bevins on behalf of WG28
Submission Date	2023/03/10

Correction Number	CP-2288
Log Summary:	Description of DateTime entries in TABLE content items for Enhanced RDSR
Name of Standard	PS3.16
Rationale for Correction:	<p>The Enhanced RDSR introduced the TABLE VT for several content items across several TIDs. Many of these tables use two columns: the first column with DateTime Started and the second column with the value for the concept. Most of the TIDs do not include a description of how to populate these tables in the Content Item Descriptions.</p> <p>This CP adds Content Item Descriptions to provide an explanation on how to populate the timing information in these TABLE VTs.</p> <p>Given that no implementations of the Enhanced RDSR exist yet (at least to the knowledge of WG02 and WG28), this addition of normative language should not impact backward compatibility.</p> <p>Examples of encoding using the TABLE VT will be included in the new supplement to Part 17 on the use of RDSRs.</p>
Correction Wording:	

*Modify PS3.16 as follows*

## TID 10044 Radiation Source Characteristics

This template describes a radiation source (e.g., focal spot size, anode material, etc.).

**Type:** Extensible  
**Order:** Non-Significant  
**Root:** No

**Table TID 10044. Radiation Source Characteristics**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130508, DCM, "Radiation Source Characteristics")	1	M		
2	>	CONTAINS	DATETIME	DT (111526, DCM, "DateTime Started")	1	M		
3	>	CONTAINS	DATETIME	DT (111527, DCM,	1	M		

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
				"DateTime Ended")				
4	>	CONTAINS	TEXT	EV (113832, DCM, "Identification of the X-Ray Source")	1	M		
5	>	CONTAINS	NUM	EV (113766, DCM, "Focal Spot Size")	1	MC	XOR Row 6	UNITS = EV (mm, UCUM, "mm")
6	>	CONTAINS	TABLE	EV (113766, DCM, "Focal Spot Size")	1	MC	XOR Row 5	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (113766, DCM, "Focal Spot Size")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT COLUMN 2 VR = FL
7	>	CONTAINS	CODE	EV (111632, DCM, "Anode Target Material")	1	UC	XOR Row 8	DCID 10016 "Anode Target Material"
8	>	CONTAINS	TABLE	EV (111632, DCM, "Anode Target Material")	1	UC	XOR Row 7	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (111632, DCM, "Anode Target Material")  COLUMN 2 VALUES = DCID 10016 "Anode Target Material"  COLUMN 1 VR = DT COLUMN 2 VR = SQ
9	>	CONTAINS	CONTAINER	EV (130531, DCM, "Attenuator Characteristics")	1-n	U		
10	>>	CONTAINS	CODE	EV (113757, DCM, "X-Ray Filter Material")	1	MC	XOR Row 13	DCID 10067 "Radiation Attenuator Material"
11	>>	CONTAINS	NUM	EV (130509, DCM, "X-Ray Filter Thickness")	1	MC	IFF Row 10 is present	UNITS = EV (mm, UCUM, "mm")
12	>>>	HAS PROPERTIES	CODE	EV (130510, DCM,	1	U		DCID 10072

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
				"Reported Value Type")				"Reported Value Type"
13	>>	CONTAINS	CODE	EV (128465, DCM, "Equivalent Attenuator Material")	1	MC	XOR Row 10	DCID 10067 "Radiation Attenuator Material"
14	>>	CONTAINS	NUM	EV (128469, DCM, "Equivalent Attenuator Thickness")	1	MC	IFF Row 13 is present	UNITS = EV (mm, UCUM, "mm")
15	>>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"

### Content Item Descriptions

Row 2	The DateTime of the beginning of the time period over which the content items are applicable.
Row 3	The DateTime of the end of the time period over which the content items are applicable.
Row 4	Identification the X-Ray source. This designation shall not change for a given source throughout the entire RDSR. For systems with multiple X-Ray sources, each source shall be described with a separate instance of this template.
<b>Row 6, 8</b>	<b><u>In the first table row, the value in COLUMN 1 shall match the value of Row 2 of this TID. In the last table row, the value of COLUMN 1 shall not exceed the value of Row 3 of this TID.</u></b>  <b><u>For all table rows, the value of COLUMN 2 is valid from the time shown in COLUMN 1 of the same table row, until the time shown in COLUMN 1 of the next table row, or in the case of the last table row, until the time shown in Row 3 of this TID.</u></b>
Row 9	Include the filtration effects of all housing and coolant components which are generally unchanged during a scope of accumulation. Multiple instances of the container may be included if there are multiple components of filtration present. The same component shall only be described once, using either the equivalent or actual material.
Row 10 and 11	Use Row 10 and 11 when the actual material is used to describe the filtration.
Row 13 and 14	Use Row 13 and 14 when an equivalent material is used to describe the filtration.

### TID 10045 Radiation Technique

This template describes the technique parameters (e.g., X-Ray tube potential, X-Ray tube current, pulse rate, etc.) of the radiation exposure during a period of time.

**Type:** Extensible  
**Order:** Non-Significant  
**Root:** No

**Table TID 10045. Radiation Technique**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130511, DCM, "Radiation Technique")	1	M		
2	>	CONTAINS	DATETIME	DT (111526, DCM,	1	M		

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
				"DateTime Started")				
3	>	CONTAINS	DATETIME	DT (111527, DCM, "DateTime Ended")	1	M		
4	>	CONTAINS	TEXT	EV (113832, DCM, "Identification of the X-Ray Source")	1	M		
5	>	CONTAINS	NUM	EV (111634, DCM, "Half Value Layer")	1	UC	XOR Row 7	UNITS = EV (mm, UCUM, "mm")
6	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
7	>	CONTAINS	TABLE	EV (111634, DCM, "Half Value Layer")	1	UC	XOR Row 5	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (111634, DCM, "Half Value Layer")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
8	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
9	>	CONTAINS	NUM	EV (113733, DCM, "KVP")	1	MC	XOR Row 11	UNITS = EV (kV, UCUM, "kV")
10	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
11	>	CONTAINS	TABLE	EV (113733, DCM, "KVP")	1	MC	XOR Row 9	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (113733, DCM, "KVP")  COLUMN 2 UNITS = EV (kV, UCUM, "kV")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
12	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
13	>	CONTAINS	NUM	EV (113734, DCM, "X-Ray Tube Current")	1	MC	XOR Row 15	UNITS = EV (mA, UCUM, "mA")

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
14	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
15	>	CONTAINS	TABLE	EV (113734, DCM, "X-Ray Tube Current")	1	MC	XOR Row 13	NCOLUMNS = 2 COLUMN 1 = EV (111526, DCM, "DateTime Started") COLUMN 2 = EV (113734, DCM, "X-Ray Tube Current") COLUMN 2 UNITS = EV (mA, UCUM, "mA") COLUMN 1 VR = DT COLUMN 2 VR = FL
16	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
17	>	CONTAINS	NUM	EV (113791, DCM, "Pulse Rate")	1	UC	XOR Row 19	UNITS = EV ({pulse}/s, UCUM, "pulse/s")
18	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
19	>	CONTAINS	TABLE	EV (113791, DCM, "Pulse Rate")	1	UC	XOR Row 17	NCOLUMNS = 2 COLUMN 1 = EV (111526, DCM, "DateTime Started") COLUMN 2 = EV (113791, DCM, "Pulse Rate") COLUMN 2 UNITS = EV ({pulse}/s, UCUM, "pulse/s") COLUMN 1 VR = DT COLUMN 2 VR = FL
20	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
21	>	CONTAINS	NUM	EV (113793, DCM, "Pulse Width")	1	UC	XOR Row 23	UNITS = EV (ms, UCUM, "ms")
22	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"
23	>	CONTAINS	TABLE	EV (113793, DCM, "Pulse Width")	1	UC	XOR Row 21	NCOLUMNS = 2 COLUMN 1 = EV (111526, DCM, "DateTime Started") COLUMN 2 = EV

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
								(113793, DCM, "Pulse Width")  COLUMN 2 UNITS = EV (ms, UCUM, "ms")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
24	>>	HAS PROPERTIES	CODE	EV (130510, DCM, "Reported Value Type")	1	U		DCID 10072 "Reported Value Type"

#### Content Item Descriptions

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Row 3	The DateTime of the end of the time period over which the content items are applicable.
Row 4	Identification the X-Ray source. This designation shall not change for a given source throughout the entire RDSR. For systems with multiple X-Ray sources, each source shall be described with a separate instance of this template.
<b>Row 7, 11, 15, 19, 23</b>	<b><u>In the first table row, the value in COLUMN 1 shall match the value of Row 2 of this TID. In the last table row, the value of COLUMN 1 shall not exceed the value of Row 3 of this TID.</u></b> <b><u>For all table rows, the value of COLUMN 2 is valid from the time shown in COLUMN 1 of the same table row, until the time shown in COLUMN 1 of the next table row, or in the case of the last table row, until the time shown in Row 3 of this TID.</u></b>

*Modify PS3.16 as follows*

### TID 10053 Patient Attenuation Characteristics

This template describes the details of the patient attenuation characteristics that may be determined/used by the system (e.g., patient equivalent thickness, water equivalent diameter, etc.).

**Type:** Extensible  
**Order:** Non-Significant  
**Root:** No

**Table TID 10053. Patient Attenuation Characteristics**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130529, DCM, "Patient Attenuation Characteristics")	1	M		
2	>	CONTAINS	DATETIME	DT (111526, DCM, "DateTime Started")	1	M		
3	>	CONTAINS	DATETIME	DT (111527, DCM, "DateTime Ended")	1	M		
4	>	CONTAINS	TEXT	EV (113832, DCM, "Identification of the X-Ray Source")	1	M		
5	>	CONTAINS	NUM	EV (111638, DCM, "Patient	1	UC	XOR Row 6	UNITS = EV (mm, UCUM,

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
				Equivalent Thickness")				"mm")
6	>	CONTAINS	TABLE	EV (111638, DCM, "Patient Equivalent Thickness")	1	UC	XOR Row 5	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (111638, DCM, "Patient Equivalent Thickness")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
7	>	CONTAINS	NUM	EV (113980, DCM, "Water Equivalent Diameter")	1	UC	XOR Row 8	UNITS = EV (mm, UCUM, "mm")
8	>	CONTAINS	TABLE	EV (113980, DCM, "Water Equivalent Diameter")	1	UC	XOR Row 7	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (113980, DCM, "Water Equivalent Diameter")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
9	>	CONTAINS	NUM	EV (113931, DCM, "Measured Lateral Dimension")	1	UC	XOR Row 10	UNITS = EV (mm, UCUM, "mm")
10	>	CONTAINS	TABLE	EV (113931, DCM, "Measured Lateral Dimension")	1	UC	XOR Row 9	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (113931, DCM, "Measured Lateral Dimension")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
11	>	CONTAINS	NUM	EV (113932, DCM, "Measured AP Dimension")	1	UC	XOR Row 12	UNITS = EV (mm, UCUM, "mm")
12	>	CONTAINS	TABLE	EV (113932, DCM, "Measured AP Dimension")	1	UC	XOR Row 11	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
								COLUMN 2 = EV (113932, DCM, "Measured AP Dimension")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
13	>	CONTAINS	NUM	EV (113933, DCM, "Derived Effective Diameter")	1	UC	XOR Row 14	UNITS = EV (mm, UCUM, "mm")
14	>	CONTAINS	TABLE	EV (113933, DCM, "Derived Effective Diameter")	1	UC	XOR Row 13	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (113933, DCM, "Derived Effective Diameter")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT  COLUMN 2 VR = FL
15	>	CONTAINS	CODE	EV (129715009, SCT, "Breast composition")	1	UC	XOR Row 16	DCID 6000 "Overall Breast Composition"
16	>	CONTAINS	TABLE	EV (129715009, SCT, "Breast composition")	1	UC	XOR Row 15	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  COLUMN 2 = EV (129715009, SCT, "Breast composition")  COLUMN 2 VALUES = DCID 6000 "Overall Breast Composition"  COLUMN 1 VR = DT  COLUMN 2 VR = SQ

#### Content Item Descriptions

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Row 3	The DateTime of the end of the time period over which the content items are applicable.
Row 4	Identification the X-Ray source. This designation shall not change for a given source throughout the entire RDSR. For systems with multiple X-Ray sources, each source shall be described with a separate instance of this template.
<b>Row 5-16</b> <b>Row 5, 7,</b> <b>9, 11, 13,</b>	Patient-specific measurements <del>which that</del> may be determined by the imaging equipment during the scope of accumulation. <del>If they are known, they may be reported here.</del>

<u>15</u>	
<b>Row 6, 8, 10, 12, 14, 16</b>	<p><b><u>Patient-specific measurements that may be determined by the imaging equipment during the scope of accumulation.</u></b></p> <p><b><u>In the first table row, the value in COLUMN 1 shall match the value of Row 2 of this TID. In the last table row, the value of COLUMN 1 shall not exceed the value of Row 3 of this TID.</u></b></p> <p><b><u>For all table rows, the value of COLUMN 2 is valid from the time shown in COLUMN 1 of the same table row, until the time shown in COLUMN 1 of the next table row, or in the case of the last table row, until the time shown in Row 3 of this TID.</u></b></p>

## TID 10054 Procedure Characteristics

This template describes the details of the procedure characteristics (e.g., patient orientation, SID, etc.).

**Type:** Extensible  
**Order:** Non-Significant  
**Root:** No

**Table TID 10054. Procedure Characteristics**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (130530, DCM, "Procedure Characteristics")	1	M		
2	>	CONTAINS	DATETIME	DT (111526, DCM, "DateTime Started")	1	M		
3	>	CONTAINS	DATETIME	DT (111527, DCM, "DateTime Ended")	1	M		
4	>	CONTAINS	NUM	EV (113832, DCM, "Identification of the X-Ray Source")	1	M		UNITS = EV (1, UCUM, "no units")
5	>	CONTAINS	TEXT	EV (125203, DCM, "Acquisition Protocol")	1	U		
6	>	CONTAINS	CODE	EV (113745, DCM, "Patient Table Relationship")	1	U		DCID 21 "Patient Equipment Relationship"
7	>	CONTAINS	CODE	EV (113743, DCM, "Patient Orientation")	1	U		DCID 19 "Patient Orientation"
8	>>	HAS CONCEPT MOD	CODE	EV (113744, DCM, "Patient Orientation Modifier")	1	M		DCID 20 "Patient Orientation Modifier"
9	>	CONTAINS	CODE	EV (123014, DCM, "Target Region")	1	U		DCID 4016 "Anatomic Region for Intra-oral Radiography"  DCID 4026 "Primary Anatomic Structure for Intra-oral and Craniofacial Radiography - Teeth"  DCID 4028 "Craniofacial

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
								Anatomic Region"  DCID 4030 "CT, MR and PET Anatomy Imaged"  DCID 4031 "Common Anatomic Region"
10	>>	HAS CONCEPT MOD	CODE	EV (272741003, SCT, "Laterality")	1	UC	IF target region is bilateral	DCID 244 "Laterality"
11	>	CONTAINS	CODE	EV (111635, DCM, "X-Ray Grid")	1-n	U		DCID 10017 "X-Ray Grid"
12	>	CONTAINS	NUM	EV (113750, DCM, "Distance Source to Detector")	1	UC	XOR Row 13	UNITS = EV (mm, UCUM, "mm")
13	>	CONTAINS	TABLE	EV (113750, DCM, "Distance Source to Detector")	1	UC	XOR Row 12	NCOLUMNS = 2  COLUMN 1 = EV (111526, DCM, "DateTime Started")  EV (113750, DCM, "Distance Source to Detector")  COLUMN 2 UNITS = EV (mm, UCUM, "mm")  COLUMN 1 VR = DT  COLUMN 2 VR = FL

#### Content Item Descriptions

Row 2	The DateTime of the beginning of the time period over which the content items are applicable.
Row 3	The DateTime of the end of the time period over which the content items are applicable.
Row 4	Identification the X-Ray source. This designation shall not change for a given source throughout the entire RDSR. For systems with multiple X-Ray sources, each source shall be described with a separate instance of this template.
<b>Row 13</b>	<p><b><u>In the first table row, the value in COLUMN 1 shall match the value of Row 2 of this TID. In the last table row, the value of COLUMN 1 shall not exceed the value of Row 3 of this TID.</u></b></p> <p><b><u>For all table rows, the value of COLUMN 2 is valid from the time shown in COLUMN 1 of the same table row, until the time shown in COLUMN 1 of the next table row, or in the case of the last table row, until the time shown in Row 3 of this TID.</u></b></p>