

DICOM Correction Item

Correction Number CP-453	
Log Summary: Define Graphic Type Value Set Constraint	
Type of Modification	Name of Standard
Editorial	PS 3.16 2003
Rationale for Correction: There is no formal definition for restriction of the SCOORD Graphic Type values in Templates, although such restriction appears (with inconsistent style) in several Templates.	
Sections of documents affected PS 3.16 Secion 6.1.9 and Annex A	
Correction Wording:	

Add new PS3.16 Section 6.1.9.3

6.1.9.3 SCOORD Graphic Type Constraint

Constraints on the value of the Graphic Type (0070,0023) may be specified in the Value Set Constraint field if and only if the Value Type is SCOORD. The constraint may specify a set of allowed values, or a set of disallowed values. For example:

GRAPHIC TYPE = {POINT}
 GRAPHIC TYPE = {CIRCLE, ELLIPSE}
 GRAPHIC TYPE = not {MULTIPOINT}

Modify templates in PS3.16 Annex A to have consistent style

TID 1400 Linear Measurement Template

TID 1400 LINEAR MEASUREMENT Type: Extensible

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		NUM	DCID (7470) "Linear Measurements"	1	M		UNITS = DCID(7460) "Units of Linear Measurement"
2	>	INFERRED FROM	EV (121055,DCM, "Path")	1	UC	XOR Row 5	GRAPHIC TYPE = {POLYLINE, CIRCLE, ELLIPSE}
3	>>	R-SELECTED FROM		1	MC	XOR Row 4	
4	>>	SELECTED FROM		1	MC	XOR Row 3	
5	>	INFERRED FROM	EV (121230, DCM, "Path Vertex")	2-n	UC	XOR Row 2	GRAPHIC TYPE = {POINT}
6	>>	R-SELECTED		1	MC	XOR Row 7	

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
	FROM						
7	>>	SELECTED FROM	IMAGE	1	MC	XOR Row 6	

Content Item Descriptions

Row 2 "Path" Path shall represent the measured path or a projection of the measured path in the image. The Graphic Type (0070,0023) of the Path SCOORD shall be:

- an open POLYLINE with two different points (to measure length, diameter, distance, proximity, etc),
- a CIRCLE or ELLIPSE (to measure circumference) or
- an open or closed POLYLINE (closed polygon) to measure path length (open) or perimeter (closed).

Row 5 "Path Vertex" A measured path that traverses two or more images (e.g., the ends of the path are in different cross-sectional plane images) shall be identified by vertices along the path. The Path Vertices shall be ordered by the order of their SCOORD Content Items to identify the measured path. The Graphic Type (0070,0023) of each SCOORD shall be POINT

TID 1401 Area Measurement Template

TID 1401
AREA MEASUREMENT
 Type: Extensible

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		NUM	DCID(7471) "Area Measurements"	1	M		Value shall be > 0 UNITS = DCID(7461) "Units of Area Measurement"
2	>	INFERRED FROM	SCOORD	EV (121056,DCM, "Area Outline")	1	MC	Shall be present if concept name of Row 1 is (121202,DCM, "Area of Defined Region"). May be present otherwise. GRAPHIC TYPE shall not be = not {MULTIPOINT}

TID 1402 Volume Measurement Template

TID 1402
VOLUME MEASUREMENT
 Type: Extensible

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		NUM	DCID(7472) "Volume Measurements"	1	M		Value shall be > 0 UNITS = DCID(7462) "Units

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
							of Volume Measurement?"
2	>	INFERRED FROM	SCOORD	EV (121057,DCM, "Perimeter Outline")	1-n	U	GRAPHIC TYPE shall not be = not {MULTIPOINT}

Content Item Descriptions

Row 2 "Perimeter Outline"

The two dimensional perimeter of the volume's intersection with or projection into the image. A Graphic **Data** Type of POINT implies that the volume's intersection or projection in a plane is a single pixel. A single pixel projection perimeter cannot cause a volume calculation to become 0.

Otherwise the type shall be a closed POLYLINE (start and end point the same) or a CIRCLE or an ELLIPSE.

TID 4008 Mammography CAD Breast Geometry Template

TID 4008
MAMMOGRAPHY CAD BREAST GEOMETRY
 Type: Non-Extensible

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		SCOORD	(111007, DCM, "Breast Outline Including Pectoral Muscle Tissue")	1	M		Graphic GRAPHIC DATA Type TYPE = {POLYLINE}
2	>	R-SELECTED FROM	IMAGE		M		Shall reference an IMAGE content item in the (111028, DCM, "Image Library")
3		SCOORD	(111045, DCM, "Pectoral Muscle Outline")	1	U		Graphic GRAPHIC DATA Type TYPE = {POLYLINE}
4	>	R-SELECTED FROM	IMAGE		M		Shall reference the same node as row 2

TID 4021
MAMMOGRAPHY CAD GEOMETRY
 Type: Non-Extensible

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		SCOORD	EV(111010, DCM, "Center")	1	M		Graphic GRAPHIC DATA Type TYPE = {POINT}

TID 4107
CHEST CAD GEOMETRY
 Type: Non-Extensible

