

1	Status	Submitted
2	Date of Last Update	2020/03/01
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4	Submitter Name	IDC
5	Submission Date	2020/02/28

6	Correction Number CP-nnnn
7	Log Summary: Extensiveness of findings
8	Name of Standard
9	PS3.3, PS3.16
10	Rationale for Correction:
11	The extensiveness of an ROI, whether defined by a segmentation or contours, and any associated measurements, does not always
12	apply to an "entire" finding, and may be only partial.
13	Define modifiers that describe "extensiveness" for segmentations, RTSS and SR.
14	<i>[Ed.Note: The current approach for PS3.3 objects (SEG and RTSS) is not to define yet another attribute, but to use the existing</i>
15	<i>modifier attributes, and assume that it is implicit in the modifier value concepts (e.g., partial or entire) that the modifier is one of</i>
16	<i>extensiveness.]</i>
17	<i>Ed.Note: The proposed approach is to add modifiers in the context of use of the ROI, rather than modify anatomy templates directly,</i>
18	<i>since the extensiveness may apply to non-anatomic concepts, e.g., a tumor or other lesion, as opposed to an organ or gland. That</i>
19	<i>said, the current DICOM convention of using "structure of" rather than "entire" anatomic codes from SNOMED CT does potentially</i>
20	<i>raise this issue, such as when one wants to say, e.g., "entire prostate gland" rather than "prostate gland structure". I.e., all the</i>
21	<i>anatomic templates (e.g., as used in images) could be post-coordinated in this way.]</i>
22	<i>[Ed.Note: The proposed approach for SR is to add modifiers to the ROI definition, rather than to specific measurements about an</i>
23	<i>ROI. I.e., they are added to TID 1410 and TID 1411, not TID 1419, except for TID 300, which has the location information subordinate</i>
24	<i>to the measurement (though even then it may be factored out into the enclosing parent TID 1501)].</i>
25	<i>[Ed.Note: As for parametrization and supply of baseline or default context groups for TID 1500, the choice made here is to parametrize</i>
26	<i>the subordinate templates, but not to specify the baseline in TID 1500 but as a "default" within the invoked template, and to make</i>
27	<i>the default defined (must use the supplied codes) rather than baseline (can use other codes for the same concept).]</i>
28	<i>[Ed.Note: The children of (255590007, SCT, "Extents") include (many) more variations than are included here. The entire/partial</i>
29	<i>children of (272142003, SCT, "Extensiveness") have been selected rather than the complete/incomplete children of (272143008,</i>
30	<i>SCT, "Completeness"). Comment is sought on this approach +/- what additional concepts may be needed.]</i>
31	<i>[Ed.Note: Currently, the complete and partial concepts are used as values of extent in CID 9001, which seems like an inappropriate</i>
32	<i>mixture of completeness vs. extensiveness from the SNOMED CT model. A better choice than complete and partial might be total</i>
33	<i>and subtotal respectively, which have the same parent and are common parlance (for +/- whether cervix is resected or left).]</i>
34	<i>[Ed.Note: (255503000, SCT, "Entire") is chosen rather than (260232004, SCT, Whole") These two seem to be equivalent and perhaps</i>
35	<i>SNOMED should retire one of them. Will ask.]</i>
36	<i>[Ed.Note: SNOMED CRS Request ID 749986 for 255503000, 255609007, 255619001, 272142003, 272143008, 260232004,</i>
37	<i>255618009.]</i>
38	Correction Wording:

Amend PS3.3 as follows (changes to existing text are bold and underlined for additions and ~~struckthrough~~ for removals):

C.8.8.8 RT ROI Observations Module

Table C.8-44. RT ROI Observations Module Attributes

Attribute Name	Tag	Type	Attribute Description
RT ROI Observations Sequence	(3006,0080)	1	Sequence of observations related to ROIs defined in the ROI Module. One or more Items shall be included in this Sequence.
...			
>Segmented Property Category Code Sequence	(0062,0003)	3	Sequence defining the general category of the property this ROI represents. Only a single Item is permitted in this Sequence. See Note 1.
>>Include Table 8.8-1 "Code Sequence Macro Attributes"			No Baseline CID is defined.
>RT ROI Identification Code Sequence	(3006,0086)	3	Sequence containing Code used to identify ROI. Only a single Item is permitted in this Sequence. See Note 2.
>>Include Table 8.8-1 "Code Sequence Macro Attributes"			For dose measurement devices Baseline CID 7026 "" No Baseline CID is defined otherwise.
>>Segmented Property Type Modifier Code Sequence	(0062,0011)	3	Sequence defining the modifier of the property type of this segment. One or more Items are permitted in this Sequence.
>>>Include Table 8.8-1 "Code Sequence Macro Attributes"			DCID 244 "Laterality". <u>DCID ccc1 "Extensiveness"</u> .
...			

Note

- This Attribute allows preserving information by copying the content of Segmented Property Category Code Sequence (0062,0003) in case a Segmentation object is re-encoded as an RT Structure Set or vice-versa.
- In case of re-encoding a Segmentation object as an RT Structure Set or vice-versa it is suggested, that the Segmented Property Type Code Sequence (0062,000F) is mapped to RT ROI Identification Code Sequence (3006,0086).

C.8.20.4.1 Segment Description Macro

Table C.8.20-4. Segment Description Macro Attributes

Attribute Name	Tag	Type	Attribute Description
...			

Attribute Name	Tag	Type	Attribute Description
<i>Include Table 10-7b "Multiple Site General Anatomy Optional Macro Attributes"</i>			<p>May not be necessary if the anatomy is implicit in the Segmented Property Type Code Sequence.</p> <p>More than one Item in Anatomic Region Sequence (0008,2218) may be used when a region of interest spans multiple anatomical locations and there is not a single pre-coordinated code describing the combination of locations. There is no requirement that the multiple locations be contiguous.</p>
Segmented Property Category Code Sequence	(0062,0003)	1	<p>Sequence defining the general category of the property the segment represents.</p> <p>Only a single Item shall be included in this Sequence.</p>
<i>>Include Table 8.8-1 "Code Sequence Macro Attributes"</i>			<i>BCID 7150 "".</i>
Segmented Property Type Code Sequence	(0062,000F)	1	<p>Sequence defining the specific property the segment represents.</p> <p>Note</p> <p>"Property" is used in the sense of meaning "what the segmented voxels represent", whether it be a physical or biological object, be real or conceptual, having spatial, temporal or functional extent or not. I.e., it is what the segment "is" (as opposed to some feature, attribute, quality, or characteristic of it, like color or shape or size).</p> <p>Only a single Item shall be included in this Sequence.</p>
<i>>Include Table 8.8-1 "Code Sequence Macro Attributes"</i>			<i>BCID 7151 "".</i>
>Segmented Property Type Modifier Code Sequence	(0062,0011)	3	<p>Sequence defining the modifier of the property type of this segment.</p> <p>One or more Items are permitted in this Sequence.</p>
<i>>>Include Table 8.8-1 "Code Sequence Macro Attributes"</i>			<p><i>DCID 244 "Laterality".</i></p> <p><u>DCID ccc1 "Extensiveness".</u></p> <p>Note</p> <p>For Retinal Segmentation Surfaces, laterality is not typically specified.</p>
...			

For reference unchanged, PS3.3:

10.5 General Anatomy Macros

Table 10-7b. Multiple Site General Anatomy Optional Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Anatomic Region Sequence	(0008,2218)	3	<p>Sequence that identifies the anatomic region of interest in this Instance (i.e., external anatomy, surface anatomy, or general region of the body).</p> <p>One or more Items are permitted in this Sequence.</p>
<i>>Include Table 8.8-1 "Code Sequence Macro Attributes"</i>			<i>CID may be defined in the Macro invocation.</i>

Attribute Name	Tag	Type	Attribute Description
>Anatomic Region Modifier Sequence	(0008,2220)	3	Sequence of Items that modifies the anatomic region of interest in this Instance One or more Items are permitted in this Sequence.
>>Include Table 8.8-1 "Code Sequence Macro Attributes"			DCID 2 "", unless otherwise defined in the Macro invocation.
Include Table 10-8 "Primary Anatomic Structure Macro Attributes"			CID may be defined in the Macro invocation.

Table 10-8. Primary Anatomic Structure Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Primary Anatomic Structure Sequence	(0008,2228)	3	Sequence of Items that identifies the primary anatomic structure(s) of interest in this Instance. One or more Items are permitted in this Sequence.
>Include Table 8.8-1 "Code Sequence Macro Attributes"			CID may be defined in the Macro invocation.
>Primary Anatomic Structure Modifier Sequence	(0008,2230)	3	Sequence of Items that modifies the primary anatomic structure of interest in this Instance. One or more Items are permitted in this Sequence.
>>Include Table 8.8-1 "Code Sequence Macro Attributes"			DCID 2 "".

Amend PS3.16 as follows (changes to existing text are bold and underlined for additions and ~~struckthrough~~ for removals):

CID ccc1 Extensiveness

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
 Type: Non-Extensible
 Version: yyyymmdd
 UID: 1.2.840.10008.6.1.uuu1

Table CID ccc1. Extensiveness

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	255503000	Entire	R-404A4	C0439751
SCT	255609007	Partial	R-404FE	C0728938

TID 300 Measurement

Table TID 300. Parameters

Parameter Name	Parameter Usage
\$Measurement	Coded term or Context Group for Concept Name of measurement
\$Units	Units of Measurement
\$ModType	Modifier Name for Concept Name of measurement
\$ModValue	Modifier Value for Concept Name of measurement
\$Method	Value for Measurement Method
\$Derivation	Value for Measurement Derivation
\$TargetSite	Value(s) for Anatomic Location of measurement

Parameter Name	Parameter Usage
\$TargetSiteLaterality	Laterality Value for Anatomic Location of measurement
\$TargetSiteMod	Modifier Value for Anatomic Location of measurement
<u>\$Extensiveness</u>	<u>The extensiveness of the Anatomic Location of the measurement</u>
...	

Table TID 300. Measurement

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			NUM	\$Measurement	1	M		UNITS = \$Units
2	>	HAS CONCEPT MOD	CODE	\$ModType	1-n	U		\$ModValue
3	>	HAS CONCEPT MOD	CODE	EV (370129005, SCT, "Measurement Method")	1	U		\$Method
4	>	HAS CONCEPT MOD	CODE	EV (121401, DCM, "Derivation")	1	U		\$Derivation
5	>	HAS CONCEPT MOD	CODE	EV (363698007, SCT, "Finding Site")	1-n	U		\$TargetSite
6	>>	HAS CONCEPT MOD	CODE	EV (272741003, SCT, "Laterality")	1	U		\$TargetSiteLaterality Defaults to DCID 244 "Laterality"
7	>>	HAS CONCEPT MOD	CODE	DT (106233006, SCT, "Topographical modifier")	1	U		\$TargetSiteMod
7b	≥	<u>HAS CONCEPT MOD</u>	<u>CODE</u>	<u>EV (272142003, SCT, "Extensiveness")</u>	<u>1</u>	<u>U</u>		<u>\$Extensiveness</u>
...								

TID 1410 Planar ROI Measurements and Qualitative Evaluations

Table TID 1410. Parameters

\$Measurement	Coded term or Context Group for Concept Name of measurement
\$Units	Units for the measurement
\$ModType	Modifier Name for Concept Name of measurement
\$ModValue	Modifier Value for Concept Name of measurement
\$Method	Value for Measurement Method
\$Derivation	Value for Measurement Derivation
\$TargetSite	Value for Anatomic Location of measurement
\$TargetSiteMod	Modifier Value for Anatomic Location of measurement
<u>\$Extensiveness</u>	<u>The extensiveness of the Anatomic Location of the measurement</u>
...	

Table TID 1410. Planar ROI Measurements and Qualitative Evaluations

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (125007, DCM, "Measurement Group")	1	M		
1b	>	HAS OBS CONTEXT	TEXT	EV (C67447, NCI, "Activity Session")	1	U		
2	>	HAS OBS CONTEXT	TEXT	DT (112039, DCM, "Tracking Identifier")	1	M		
3	>	HAS OBS CONTEXT	UIDREF	EV (112040, DCM, "Tracking Unique Identifier")	1	M		
3b	>	CONTAINS	CODE	EV (121071, DCM, "Finding")	1	U		\$FindingType
3c	>	CONTAINS	CODE	EV (130400, DCM, "Geometric purpose of region")	1	U		BCID 219 ""
3d	≥	<u>CONTAINS</u>	<u>CODE</u>	<u>EV (272142003, SCT, "Extensiveness")</u>	<u>1</u>	<u>U</u>		<u>\$Extensiveness</u> <u>Defaults to DCID ccc1 "Extensiveness"</u>
...								

TID 1411 Volumetric ROI Measurements and Qualitative Evaluations**Table TID 1411. Parameters**

\$Measurement	Coded term or Context Group for Concept Name of measurement
\$Units	Units for the measurement
\$ModType	Modifier Name for Concept Name of measurement
\$ModValue	Modifier Value for Concept Name of measurement
\$Method	Value for Measurement Method
\$Derivation	Value for Measurement Derivation
\$TargetSite	Value for Anatomic Location of measurement
\$TargetSiteMod	Modifier Value for Anatomic Location of measurement
<u>\$Extensiveness</u>	<u>The extensiveness of the Anatomic Location of the measurement</u>
...	

Table TID 1411. Volumetric ROI Measurements and Qualitative Evaluations

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (125007, DCM, "Measurement Group")	1	M		
1b	>	HAS OBS CONTEXT	TEXT	EV (C67447, NCI, "Activity Session")	1	U		
2	>	HAS OBS CONTEXT	TEXT	DT (112039, DCM, "Tracking Identifier")	1	M		
3	>	HAS OBS CONTEXT	UIDREF	EV (112040, DCM, "Tracking Unique Identifier")	1	M		
3b	>	CONTAINS	CODE	EV (121071, DCM, "Finding")	1	U		\$FindingType

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
3c	>	CONTAINS	CODE	EV (130400, DCM, "Geometric purpose of region")	1	U		BCID 219 ""
3d	≥	<u>CONTAINS</u>	<u>CODE</u>	<u>EV (272142003, SCT, "Extensiveness")</u>	<u>1</u>	<u>U</u>		<u>\$Extensiveness</u> <u>Defaults to DCID ccc1</u> <u>"Extensiveness"</u>
...								

TID 1500 Measurement Report

Table TID 1500. Measurement Report

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
...								
7	>>	CONTAINS	INCLUDE	DTID 1410 "Planar ROI Measurements and Qualitative Evaluations"	1-n	U		\$Measurement = BCID 218 "" \$Units = BCID 7181 "" \$Derivation = BCID 7464 "" \$Method = BCID 6147 "" \$QualModType = BCID 210 "" \$QualModValue = BCID 211 ""
8	>>	CONTAINS	INCLUDE	DTID 1411 "Volumetric ROI Measurements and Qualitative Evaluations"	1-n	U		\$Measurement = BCID 218 "" \$Units = BCID 7181 "" \$Derivation = BCID 7464 "" \$Method = BCID 6147 "" \$QualModType = BCID 210 "" \$QualModValue = BCID 211 ""
9	>>	CONTAINS	INCLUDE	DTID 1501 "Measurement and Qualitative Evaluation Group"	1-n	U		\$Measurement = BCID 218 "" \$Units = BCID 7181 "" \$Derivation = BCID 7464 "" \$Method = BCID 6147 "" \$QualModType = BCID 210 "" \$QualModValue = BCID 211 ""
...								

TID 1501 Measurement and Qualitative Evaluation Group

Table TID 1501. Parameters

Parameter Name	Parameter Usage
\$Measurement	Coded term or Context Group for Concept Name of measurement
\$Units	Units of Measurement
\$ModType	Modifier Name for Concept Name of measurement
\$ModValue	Modifier Value for Concept Name of measurement
\$Method	Value for Measurement Method
\$Derivation	Value for Measurement Derivation
\$TargetSite	Value(s) for Anatomic Location of measurement
\$TargetSiteMod	Modifier Value for Anatomic Location of measurement
<u>\$Extensiveness</u>	<u>The extensiveness of the Anatomic Location of the measurement</u>
...	

Table TID 1501. Measurement and Qualitative Evaluation Group

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		CONTAINS	CONTAINER	EV (125007, DCM, "Measurement Group")	1	M		
1b	>	HAS OBS CONTEXT	TEXT	EV (C67447, NCIt, "Activity Session")	1	U		
2	>	HAS OBS CONTEXT	TEXT	DT (112039, DCM, "Tracking Identifier")	1	M		
3	>	HAS OBS CONTEXT	UIDREF	EV (112040, DCM, "Tracking Unique Identifier")	1	M		
3b	>	CONTAINS	CODE	EV (121071, DCM, "Finding")	1	U		\$FindingType
4	>	HAS OBS CONTEXT	INCLUDE	DTID 1502 ""	1	U		
5	>	HAS CONCEPT MOD	CODE	EV (370129005, SCT, "Measurement Method")	1	U		\$Method
6	>	HAS CONCEPT MOD	CODE	EV (363698007, SCT, "Finding Site")	1-n	U		\$TargetSite
7	>>	HAS CONCEPT MOD	CODE	EV (272741003, SCT, "Laterality")	1	U		DCID 244 "Laterality"
8	>>	HAS CONCEPT MOD	CODE	DT (106233006, SCT, "Topographical modifier")	1	U		\$TargetSiteMod
8b	≥	<u>HAS CONCEPT MOD</u>	<u>CODE</u>	<u>EV (272142003, SCT, "Extensiveness")</u>	<u>1</u>	<u>U</u>		<u>\$Extensiveness</u> <u>Defaults to DCID ccc1 "Extensiveness"</u>
...								

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
10	>	CONTAINS	INCLUDE	DTID 300 "Measurement"	1-n	U		\$Measurement = \$Measurement \$Units = \$Units \$ModType = \$ModType \$ModValue = \$ModValue \$Method = \$Method \$Derivation = \$Derivation \$TargetSite = \$TargetSite \$TargetSiteMod = \$TargetSiteMod <u>\$Extensiveness = \$Extensiveness</u> \$Equation = \$Equation \$ImagePurpose = \$ImagePurpose \$WavePurpose = \$WavePurpose \$RefAuthority = \$RefAuthority \$RangeAuthority = \$RangeAuthority \$DerivationParameter = \$DerivationParameter \$DerivationParameterUnits = \$DerivationParameterUnits
...								

TID 9001 Gynecological History

Table TID 9001. Gynecological History

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
15	>	CONTAINS	NUM	EV (111521, DCM, "Age when hysterectomy performed")	1	U		UNITS = EV (a, UCUM, "Year")
16	>>	HAS CONCEPT MOD	CODE	EV (255590007, SCT, "Extent") (272142003, SCT, "Extensiveness")	1	U		EV (255594003, SCT, "Complete") (255619001, SCT, "Total") EV (255609007, SCT, "Partial") (255618009, SCT, "Subtotal")

1

For reference unchanged, PS3.16: