DICOM Change Proposal

STATUS	Letter Ballot
Date of Last Update	2026-01-28
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Change Number	CP-2546
Log Summary: PS3.16, correction of typos in TIDs	
Name of Standard PS3.16	

Rationale for Change:

1) PS3.16 has typos in some TIDs, column "Rel with Parent"

TID 1401, Row 6 has unknown 'Rel with Parent'='R- INFERRED FROM'
TID 1402, Row 6 has unknown 'Rel with Parent'='R- INFERRED FROM'
Both rows contain an unexpected space after the 'R-'.

The definition is in PS3.16, Table 6.1.3-1. Syntax of Relationship Constraints.
It runs: "[…] `For example, "R-INFERRED FROM"` "– which is without a space.

Table 6.1.3-1. Syntax of Relationship Constraints

Expression	Definition
RTYPE	Relationship Mode is by-value and Relationship Type is RTYPE. For example, "INFERRED FROM".
R-RTYPE	Relationship Mode is by-reference and Relationship Type is RTYPE. For example, "R-INFERRED FROM".

2) PS3.16 has a typo in TID 3905. Calcium Scoring Results, column "Value Set Constraint"
The constraint $Measurement is missing a closing parenthesis.

Table TID 3905. Calcium Scoring Results

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (59776-5, LN, "Findings")	1	M		
2	>	CONTAINS	CODE	EV (111004, DCM, "Analysis Performed")	1	M		EV (122603, DCM, "Calcium Scoring Analysis")
3	>	CONTAINS	NUM	EV (122657, DCM, "Agatston Score Threshold")	1	U		UNITS = DT ([hnsf'U], UCUM, "Hounsfield unit")
4	>	CONTAINS	NUM	EV (122658, DCM, "Calcium Mass Threshold")	1	U		UNITS = DT (mg/cm3, UCUM, "mg/cm3")
5	>	CONTAINS	NUM	EV (122659, DCM, "Calcium Scoring Calibration")	1	U		UNITS = DT (mg/[hnsf'U].cm3, UCUM, "mg/[hnsf'U].cm3")
6	>	CONTAINS	INCLUDE	DTID 300 "Measurement"	1	U		$Measurement = EV (450360000, SCT, "Coronary artery calcium score") $Method = EV (112055, DCM, "Agatston Scoring Method") $Units = DT (1, UCUM, "no units")

3) PS3.16 has a typo in TID 3750, column "Concept Name"
The TID 3750 has in column "Concept Name" the entry "EV (1185780006, SCT, "Relative Time")".
That SNOMED CT code "1185780006" does not exist. The correct code is "118578006".

Table TID 3750. Waveform Annotations

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition
1			CONTAINER	BCID 3048 "Waveform Annotations Document Title "	1	M	
2	>	HAS CONCEPT MOD	INCLUDE	DTID 1204 "Language of Content Item and Descendants"	1	U	
3	>	HAS OBS CONTEXT	INCLUDE	DTID 1001 "Observation Context"	1	M	
4	>	HAS CONCEPT MOD	CODE	EV (130871, DCM, "Procedure annotated")	1-n	U	
5	>	HAS OBS CONTEXT	CODE	EV (1185780006, SCT, "Relative Time")	1	U	

4) PS3.16 has different CodeMeanings for UCUM (1, UCUM, "no units")

TID 3209, Row 9, Constraint #1 has (1, UCUM, "no unit") with CodeMeaning="no unit"

TID 3209, Row 10, Constraint #1 has (1, UCUM, "no unit") with CodeMeaning="no unit"

TID 3807, Row 13, Constraint #1 has (1, UCUM, "units") with CodeMeaning="units"

TID 3807, Row 14, Constraint #1 has (1, UCUM, "units") with CodeMeaning="units"

According to PS3.16, section **G English Code Meanings of Selected Codes (Normative)**,

the official/normative Code Meaning shall be "unary" or "no units".

G English Code Meanings of Selected Codes (Normative)

Table G-1. English Code Meanings of Selected Codes		
Coding Scheme Designator	**Code Value**	**Code Meaning**
UCUM	1	unary
		no units

The wording "unary" is never used outside of section G.

The wording "no units" is currently used 66 times in TIDs (as Value Set Constraints) and in CIDs.

It is suggested to use the same Code Meaning "no units" for the 4 above cases.

5) Usage of caret sign in Code Meaning of UCUM

In UCUM units the typical wording for the Code Meaning in "square" is "m2", "cm2" (used >50 times), "mm2" (used >25 times).

There are some exceptions:

TID 10024, Row 7, Unit Constraint #1 has (m2, UCUM, "m^2") with CodeMeaning "m^2"

TID 10024, Row 9, Unit Constraint #1 has (kg/m2, UCUM, "kg/m^2") with CodeMeaning "kg/m^2"

CID 301 has UCUM "mg/cm3" with CodeMeaning "mg/cm^3"

6) Usage of UCUM "mm"

It may be discussed to consistently use CodeMeaning "mm" or "millimeter" – but "no mm" is definitely wrong.

Editorial:
UCUM with plural CodeMeanings (d, UCUM, "days") versus singular (d, UCUM, "days")
will be discussed in a separate CP.

Change Wording:								

Modify PS3.16, _TID 1401 Area Measurement_, delete a space

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
6	>	~~R- INFERRED FROM~~ **R-INFERRED FROM**	IMAGE		1	MC	IF concept name of Row 1 = (131184002, SCT, "Area of defined region"), and IFF Row 2 or 5 not present.	Reference shall be to a Segmentation Image, with a single value specified in Referenced Frame Number
		[…]						

Modify PS3.16, _TID 1402 Volume Measurement_, delete a space

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
6	>	~~R- INFERRED FROM~~ **R-INFERRED FROM**	IMAGE		1	UC	XOR Rows 2, 5	Reference shall be to a Segmentation Image, with a value specified in Referenced Segment Number
		[…]						

Modify PS3.16, _TID 3905 Calcium Scoring Results_,
Add a closing parenthesis after "Coronary artery calcium score"

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
6	>	CONTAINS	INCLUDE	DTID 300 "Measurement"	1	U		$Measurement = EV (450360000, SCT, "Coronary artery calcium score"**)** $Method = EV (112055, DCM, "Agatston Scoring Method") $Units = DT (1, UCUM, "no units")
		[…]						

Modify PS3.16, _TID 3750 Waveform Annotations_,
- delete a space before parenthesis,
- delete a zero in the SCT CodeValue; adjust the hyperlink to _http://snomed.info/id/118578006_

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
5	>	HAS OBS CONTEXT	CODE	EV –(~~1185780006~~**118578006**, SCT, "Relative Time")	1	U		DCID 12102 "Temporal Period Relating to Procedure or Therapy"
		[…]						

Modify PS3.16, TID 3209. Centerline Wall Motion, add an "s"

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
9	>>	CONTAINS	NUM	EV (122452, DCM, "First Chord of Abnormal Region")	1	M		Unit = DT (1, UCUM, "no unit**s**")
10	>>	CONTAINS	NUM	EV (122453, DCM, "Last Chord of Abnormal Region")	1	M		Unit = DT (1, UCUM, "no unit**s**")
		[…]						

25 *Modify PS3.16, TID 3807. Percutaneous Coronary Intervention Procedure, add "no ":*

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
13	>	CONTAINS	NUM	EV (122175, DCM, "Number of lesion interventions attempted")	1	M		UNITS = EV (1, UCUM, "**no** units")
14	>	CONTAINS	NUM	EV (122176, DCM, "Number of lesion interventions successful")	1	M		UNITS = EV (1, UCUM, "**no** units")
		[…]						

Modify PS3.16, TID 10024. Imaging Agent Administration Patient Characteristics, delete the "^":

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
7	>	CONTAINS	NUM	EV (8277-6, LN, "Body Surface Area")	1	U		UNITS = EV (m2, UCUM, "~~m^2~~m2")
8	>>	INFERRED FROM	CODE	EV (8278-4, LN, "Body Surface Area Formula")	1	U		BCID 3663 "Body Surface Area Equation"
9	>	CONTAINS	NUM	EV (60621009, SCT, "Body Mass Index")	1	U		UNITS = EV (kg/m2, UCUM, "~~kg/m^2~~kg/m2")
		[…]						

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Modify PS3.16, Table TID 15305. Patient Setup Fixation Device Parameters, , delete the "^":

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
		[…]						
4	>	NUMERIC	NUM	EV (130660, DCM, "Abdominal Compression Belt Length")	1	U		UNIT = EV (mm, UCUM, "~~no~~-mm")
		[…]						

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Modify PS3.16, CID 301. Multi-energy Material Unit, delete the "^":

CID 301 Multi-energy Material Unit

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Resources: **HTML** I **FHIR JSON** I **FHIR XML** I **IHE SVS XML**
Keyword: MultienergyMaterialUnit
FHIR Keyword: dicom-cid-301-MultienergyMaterialUnit
45 **Type:** Extensible
Version: ~~20181109~~ YYYYMMDD
UID: 1.2.840.10008.6.1.1209

Table CID 301. Multi-energy Material Unit

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Coding Scheme Designator	Code Value	Code Meaning
UCUM	mg/cm3	~~mg/cm^3~~ mg/cm3
[…]		