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## DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2024/03/24
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Correction Number	CP-2313
Log Summary: Correct Condition in Row 34e of TID 10013	
Name of Standard PS3.16 2024a	
Rationale for Correction:  CP 1881 moved the term, (113981, DCM, "Water Equivalent Diameter Representative Value") from CID 10023 to CID 10024.  This breaks the condition in Row 34e of TID 10013.	
Correction Wording:	

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*Update PS16 A. Structured Reporting Templates, TID 100013 as follows*

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**Table TID 10013. CT Irradiation Event Data**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
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31	>>>	HAS CONCEPT MOD	CODE	EV (370129005, SCT, "Measurement Method")	1	M		DCID 10023 "Size Specific Dose Estimation Method for CT"
32	>>>	INFERRED FROM	NUM	EV (113931, DCM, "Measured Lateral Dimension")	1	MC	IF value of Row 31 = (113934, DCM, "AAPM 204 Lateral Dimension") or (113936, DCM, "AAPM 204 Sum of Lateral and AP Dimension")	UNITS = EV (mm, UCUM, "mm")
33	>>>	INFERRED FROM	NUM	EV (113932, DCM, "Measured AP Dimension")	1	MC	IF value of Row 31 = (113935, DCM, "AAPM 204 AP Dimension") or (113936, DCM, "AAPM 204 Sum of Lateral and AP Dimension")	UNITS = EV (mm, UCUM, "mm")

34	>>>	INFERRED FROM	NUM	EV (113933, DCM, "Derived Effective Diameter")	1	MC	IF value of Row 31 = (113934, DCM, "AAPM 204 Lateral Dimension") or (113935, DCM, "AAPM 204 AP Dimension") or (113936, DCM, "AAPM 204 Sum of Lateral and AP Dimension") or (113937, DCM, "AAPM 204 Effective Diameter Estimated From Patient Age")	UNITS = EV (mm, UCUM, "mm")
34a	>>>	INFERRED FROM	NUM	EV (113991, DCM, "Dw Conversion Factor Coefficients")	2	UC	IFF value of Row 31 = (113988, DCM, "Estimated from Water Equivalent Diameter") or (113989, DCM, "Arithmetic Average of SSDE(z)")	UNITS = EV (mm, UCUM, "mm")
34b	>>>	INFERRED FROM	UIDREF	EV (113985, DCM, "Series or Instance used for Water Equivalent Diameter estimation")	1-n	U		
34c	>>>	INFERRED FROM	NUM	EV (113980, DCM, "Water Equivalent Diameter")	1	MC	IF value of Row 31 = (113988, DCM, "Estimated from Water Equivalent Diameter") or (113989, DCM, "Arithmetic Average of SSDE(z)")	UNITS = EV (mm, UCUM, "mm")
34d	>>>>	HAS CONCEPT MOD	CODE	EV EV (370129005, SCT, "Measurement Method")	1	M		DCID 10024 "Water Equivalent Diameter Method"
34e	>>>>	INFERRED FROM	NUM	EV (113994, DCM, "Longitudinal Position Z")	1	MC	IF value of <b>Row 31-34d</b> = (113981, DCM, "Water Equivalent Diameter Representative Value")	UNITS = EV (mm, UCUM, "mm")
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### Content Item Descriptions

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Row 31	Methods including [AAPM Report 204] and [IEC 62985] are listed in CID 10023 "Size Specific Dose Estimation Method for CT"; other methods may be used.  The phantom size (16cm or 32cm) used for the calculation is available from the phantom type defined in Row 23.
Row 32	The condition specifies inclusion of the Measured Lateral Dimension if it was used in the calculation.
Row 33	The condition specifies inclusion of the Measured AP Dimension if it was used in the calculation.
Row 34	The Derived Effective Diameter is conditionally included, whether it was derived from measurements or estimated from age, but may not be used for other (non-AAPM Report 204) methods.

Row 34a	The conversion factor described by the coefficients is used both for the SSDE(z) values in Row 34f and, if Row 31 is (113988, DCM, "Estimated from Water Equivalent Diameter"), for the SSDE value in Row 30.
Row 34b	If the Water Equivalent Diameter was computed from raw views rather than reconstructed images, then the Raw Data may be referenced.
Row 34c	A single value for Water Equivalent Diameter is encoded.  If Row 31 is (113988, DCM, "Estimated from Water Equivalent Diameter"), this value is used to generate Row 30.  If Row 31 is (113989, DCM, "Arithmetic Average of SSDE(z)"), this value is not used directly to generate Row 30, but is still present and represents Dw, the Arithmetic Average of the Dw(z) values in Row 34h as described in [IEC 62985].
Row 34e	This z position is patient (not table or gantry) relative, to allow it to be defined in the Patient Coordinate System and hence related to the Image Position (Patient) in the reconstructed images (see TID 10014 "Scanning Length", included at Row 9). It is required if the method uses a representative slice, but may also be present if the method used a Localizer or Raw Data at a single location rather than the entire scan range.
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10 **TID 10042 Irradiation Event Summary Data**

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**Table TID 10042. Irradiation Event Summary Data**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
33	>>	CONTAINS	NUM	EV (113930, DCM, "Size Specific Dose Estimation")	1-n	U		UNITS = EV (mGy, UCUM, "mGy")
34	>>>	HAS CONCEPT MOD	CODE	EV (370129005, SCT, "Measurement Method")	1	M		DCID 10023 "Size Specific Dose Estimation Method for CT"
35	>>>>	INFERRED FROM	NUM	EV (113931, DCM, "Measured Lateral Dimension")	1	MC	IF value of Row 34 = (113934, DCM, "AAPM 204 Lateral Dimension") or (113936, DCM, "AAPM 204 Sum of Lateral and AP Dimension")	UNITS = EV (mm, UCUM, "mm")
36	>>>>	INFERRED FROM	NUM	EV (113932, DCM, "Measured AP Dimension")	1	MC	IF value of Row 34 = (113935, DCM, "AAPM 204 AP Dimension") or (113936, DCM, "AAPM 204 Sum of	UNITS = EV (mm, UCUM, "mm")

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
							Lateral and AP Dimension")	
37	>>>>	INFERRED FROM	NUM	EV (113933, DCM, "Derived Effective Diameter")	1	MC	IF value of Row 34 = (113934, DCM, "AAPM 204 Lateral Dimension") or (113935, DCM, "AAPM 204 AP Dimension") or (113936, DCM, "AAPM 204 Sum of Lateral and AP Dimension") or (113937, DCM, "AAPM 204 Effective Diameter Estimated From Patient Age")	UNITS = EV (mm, UCUM, "mm")
38	>>>>	INFERRED FROM	NUM	EV (113980, DCM, "Water Equivalent Diameter")	1	MC	IF value of Row 34 = (113981, DCM, "Water Equivalent Diameter Representative Value")	UNITS = EV (mm, UCUM, "mm")
39	>>>>>	HAS CONCEPT MOD	CODE	EV (370129005, SCT, "Measurement Method")	1	M		DCID 10024 "Water Equivalent Diameter Method"
40	>>>>	INFERRED FROM	UIDREF	EV (113985, DCM, "Series or Instance used for Water Equivalent Diameter estimation")	1-n	MC	IF value of Row <b>3439</b> = (113982, DCM, "Water Equivalent Diameter Integrated Across Scan Range") or (113984, DCM, "Water Equivalent Diameter From Localizer") or (Row 34 = (113983, DCM, "Water Equivalent Diameter From Raw Data") and the Raw Data is encoded in DICOM).	
41	>>>>	INFERRED FROM	NUM	EV (113986, DCM, "Z value of location of Water Equivalent	1	MC	IF value of Row <b>3439</b> = (113981, DCM, "Water Equivalent	UNITS = EV (mm, UCUM, "mm")

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
				Diameter estimation")			Diameter Representative Value")	

12 **Content Item Descriptions**

Row 33	More than one Size Specific Dose Estimation may be included, for example if different computation methods are used.
Row 34	The methods of [AAPM Report 204] are listed in CID 10023 "Size Specific Dose Estimation Method for CT"; other methods may be used.  The phantom size used for the calculation is available from the phantom type defined in Row 29.
Row 35	The condition specifies inclusion of the Measured Lateral Dimension if it was used in the calculation.
Row 36	The condition specifies inclusion of the Measured AP Dimension if it was used in the calculation.
Row 37	The Derived Effective Diameter is conditionally included, whether it was derived from measurements or estimated from age, but may not be used for other (non-AAPM Report 204) methods.
Row 38	A single value for Water Equivalent Diameter is encoded in Row 38 if the method uses a single value. It is required if the method uses a representative slice, but may also be present if the method used a Localizer or Raw Data at a single location rather than the entire scan range.
Row 39	The modifier is intended to specify the family of methods and not the specific technique (e.g., for AAPM 220 (113987, DCM, "AAPM 220") is used, not (113981, DCM, "Water Equivalent Diameter Representative Value"), etc.).
Row 40	If the method uses multiple slices across the scan range, the reconstructed image Series or (list of) Instances used is referenced; the values for Water Equivalent Diameter may or may not be recorded in the CT Image Module or the CT Exposure Macro of those images. More than one Series may be referenced if the reconstructed images for this acquisition used for Water Equivalent Diameter estimation span multiple series.  If the Water Equivalent Diameter was computed from raw views rather than reconstructed images, then the Raw Data is referenced, if it was encoded in DICOM (it is not required to be).
Row 41	This location is patient (not table or gantry) relative, to allow it to be defined in the Patient Coordinate System and hence related to the Image Position (Patient) in the reconstructed images. It is required if the method uses a representative slice, but may also be present if the method used a Localizer or Raw Data at a single location rather than the entire scan range.

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