DICOM Correction Proposal

STATUS	Assigned
Date of Last Update	2025/02/04
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Submission Date	2024/08/14

Correction Number	CP-2449
Log Summary:	Add Description to Patient Location Fiducial in TID 10002 Accumulated X-Ray Dose
Name of Standard PS 3.16	

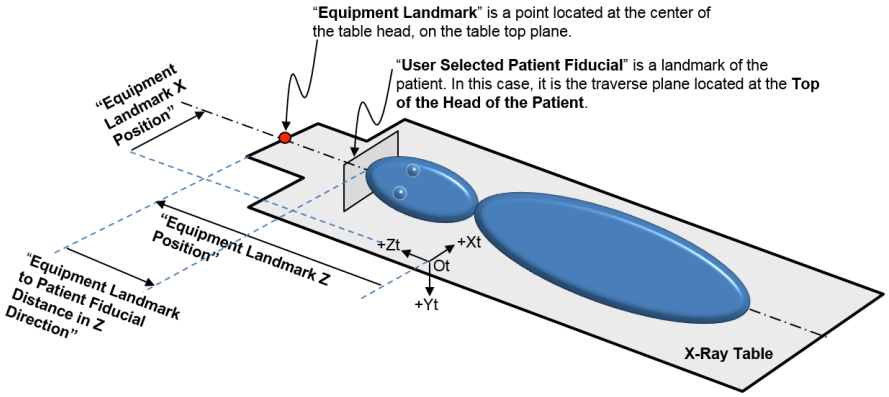
Rationale for Correction:

During the development of Supplement 245, WG-02/28 identified a potential inconsistency in TID 10002 Row 18, where the "Patient Location Fiducial" CONTAINER could contain duplicate fiducials with differing, inconsistent locations. While this does not pose an implementation issue, it warrants clarification.

This Correction Proposal (CP) introduces a Content Item description for TID 10002 Row 18 and modifies the Content Item description for TID 10002 Row 19 to ensure that identical patient location fiducials are not redundantly recorded with conflicting spatial coordinates.

The figure below (from draft Supplement 245) illustrates the relationship between Reference Location and Equipment Landmark to Patient Fiducial Z Distance.

Note: A laterality concept modifier is not included in the Patient Location Fiducial CONTAINER, as patient symmetry implies that the Z-distance between left and right is equivalent.



Correction Wording:

Update PS3.16 as follows:

Table TID 10002. Accumulated X-Ray Dose

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (113702, DCM, "Accumulated X-Ray Dose Data")	1	M		
…								
15	>	CONTAINS	CODE	EV (128750, DCM, "Equipment Landmark")	1	U		EV (128751, DCM, "Center of Table Head")
16	>>	HAS PROPERTIES	NUM	EV (128752, DCM, "Equipment Landmark X Position")	1	M		UNITS = EV (mm, UCUM, "mm")
17	>>	HAS PROPERTIES	NUM	EV (128753, DCM, "Equipment Landmark Z Position")	1	M		UNITS = EV (mm, UCUM, "mm")
18	>	CONTAINS	CONTAINER	EV (128754, DCM, "Patient Location Fiducial")	1-n	U		
19	>>	CONTAINS	INCLUDE	DTID 400 “Reference Location”	1	M		
20	>>	HAS PROPERTIES	NUM	EV (128756, DCM, "Equipment Landmark to Patient Fiducial Z Distance")	1	M		UNITS = EV (mm, UCUM, "mm")

Content Item Descriptions

…	
Rows 16 and 17	These coordinates relate a visible landmark on the X-Ray table to the Table Reference Point that is arbitrarily defined by the manufacturer and not necessarily visible to the operator. The Equipment Landmark Y Position is not recorded since it is, by definition, in the plane of the table as is the origin of the Table Coordinate System so the value would always be zero.
Row 18	**Contains Patient Location Fiducial(s), which serve as spatial references to establish the patient’s location within the Table Reference System. Multiple fiducials may be included in this container to provide a more comprehensive description of the patient’s body size and positioning.**
Row 19	In many instances, the values will be either: • EV (128772, DCM, "Reference Basis") = (88986008, SCT, "Vertex of Head") with EV (128773, DCM, "Reference Geometry") = (128120, DCM, "Plane through Superior Extent"), or • EV (128772, DCM, "Reference Basis") = (56459004, SCT, "Foot") with EV (128773, DCM, "Reference Geometry") = (128121, DCM, "Plane through Inferior Extent") **When multiple Patient Location Fiducial containers are present, each reference location shall be unique.**

Row 20	This distance (likely recorded by the operator) locates the patient with respect to an X-Ray table landmark. The patient is assumed to be centered in the left-right axis of the X-Ray table.