

DICOM Correction Proposal

STATUS	Final Text
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Correction Number	CP-1434
Log Summary:	Additional SSD Information
Name of Standard	PS3.3, PS3.6 2015a
Rationale for Correction:	An addition is required for the existing Source-to-Surface Distances in the RT Plan definition in case the patient surface is not the first entry point for dose calculation (but, e.g., a table).
Correction Wording:	

Change in PS 3.3 C.8.8.13 RT Fraction Scheme Module

Table C.8-49 – RT FRACTION SCHEME MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
Fraction Group Sequence	(300A,0070)	1	Introduces sequence of Fraction Groups in current Fraction Scheme. One or more items shall be included in this sequence.
...			
>Referenced Beam Sequence	(300C,0004)	1C	Sequence of treatment beams in current Fraction Group. One or more items shall be included in this sequence. Required if Number of Beams (300A,0080) is greater than zero.
...			
>>Beam Dose Verification Control Point Sequence	(300A,008C)	3	Sequence of Items containing Beam Dose Verification Control Points. Two or more items may be included in this sequence.
...			
>>>Average Beam Dose Point SSD	(300A,008F)	2C	Average Source to patient surface (skin) distance in mm along a ray from the source to the dose point specified by the Beam Dose Specification Point (300A,0082) from the current Beam Dose Verification Control

			Point to the next one. See Section C.8.8.13.1.2 Required for all but the last items in that sequence.
>>>Average Beam Dose Point Source to External Contour Distance	(300A,0131)	3	Average Source to External Contour distance (mm) including devices associated with the patient anatomy model along a ray from the source to the dose point specified by the Beam Dose Specification Point (300A,0082) from the current Beam Dose Verification Control Point to the next one. See C.8.8.14.15.
...			

Change in PS 3.3 C.8.8.14 RT Beams Module

Table C.8-50—RT BEAMS MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
Beam Sequence	(300A,00B0)	1	Introduces sequence of treatment beams for current RT Plan. One or more items shall be included in this sequence.
...			
>Control Point Sequence	(300A,0111)	1	Introduces sequence of machine configurations describing treatment beam. Two or more items shall be included in this sequence. See C.8.8.14.5 and C.8.8.14.6.
...			
>>Surface Entry Point	(300A,012E)	3	Patient surface entry point coordinates (x,y,z) in the patient based coordinate system described in Section C.7.6.2.1.1 (mm).
>>External Contour Entry Point	(300A,0133)	3	External Contour entry point coordinates (x,y,z) in the patient based coordinate system described in Section C.7.6.2.1.1 (mm). See C.8.8.14.15.
>>Source to Surface Distance	(300A,0130)	3	Source to Patient Surface (skin) distance (mm).
>>Source to External Contour Distance	(300A,0132)	3	Source to External Contour distance (mm) including devices associated with the patient anatomy model. For dosimetric purposes this value may differ from the Source to Surface Distance (300A,0130). See C.8.8.14.15.

Insert section PS 3.3 C.8.8.14.15 Source to External Contour Distance

C.8.8.14.15 Source to External Contour Distance and External Contour Entry Point

The Source to External Contour Distance (300A,0132) (and the Average Beam Dose Point Source to External Contour Distance (300A,0131) in the RT Fraction Scheme Module) is the distance to the beam entry point (External Contour Entry Point), which may include Bolus, Patient Positioning Devices, Patient Immobilization Devices or other devices. This value is useful for including the attenuation effects of external devices on the dose calculation and for patient setup.

Change in PS 3.3 C.8.8.25 RT Ion Beams Module

Table C.8.8.25-1 – RT ION BEAMS MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
Ion Beam Sequence	(300A,02A2)	1	Sequence of setup and/or treatment beams for current RT Ion Plan. One or more items shall be included in this sequence.
...			
>>Surface Entry Point	(300A,012E)	3	Patient surface entry point coordinates (x,y,z) in the patient based coordinate system described in Section C.7.6.2.1.1 (mm).
>> External Contour Entry Point	(300A,0133)	3	External Contour entry point coordinates (x,y,z) in the patient based coordinate system described in Section C.7.6.2.1.1 (mm). See C.8.8.14.15.

PS 3.6 Registry of DICOM data elements

(300A,0131)	<u>Average Beam Dose Point Source to External Contour Surface Distance</u>	<u>AverageBeamDosePointSourceToExternalContourSurfaceDistance</u>	<u>FL</u>	<u>1</u>
(300A,0132)	<u>Source to External Contour Distance</u>	<u>SourceToExternalContourDistance</u>	<u>FL</u>	<u>1</u>
(300A,0133)	<u>External Contour Entry Point</u>	<u>ExternalContourEntryPoint</u>	<u>FL</u>	<u>3</u>