

## DICOM Correction Item

Correction Number CP-614	
Log Summary: Effective Depth at Beam Dose Specification Point	
Type of Modification Addition	Name of Standard PS 3 2006
<p>Rationale for Correction:</p> <p>Many radiotherapy clinics will perform independent monitor unit or dose calculations for each treatment beam. In order to accomplish this, many clinics use commercially available software programs that import treatment field parameters from the DICOM RT PLAN data structures. Whenever a calculation is performed to a point that is not at the isocenter of a beam, it becomes necessary to manually enter the depth and SSD information because the DICOM data structures do not have a tag for these items. In order to eliminate this problem, this proposal makes additions to the RT Fraction Scheme Module (C.8.8.13). The rationale for using this module is that the Referenced Beam Sequence (300C, 0004) contained within this module already contains Beam Dose (300A, 0084) for a specific Beam Dose Specification Point (300A, 0082). If the depth and beam water-equivalent depth are also provided for the Beam Dose Specification Point, the problem is solved.</p>	
<p>Sections of documents affected</p> <p>PS 3.3 Section 4, Section C.8.8.13 (Table C.8-49), PS 3.6 Section 6</p>	

**Add following abbreviation in PS 3.3 Section 4**

**SSD**                      Source to Patient Surface Distance

**Add following attributes to PS 3.3 Table C.8-49 RT Fraction Scheme Module Attributes, in the Referenced Beam Sequence:**

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 may be included in this sequence
...			
>Referenced Beam Sequence	(300C,0004)	1C	Introduces sequence of treatment beams in current Fraction Group. Required if Number of Beams (300A,0080) is greater than zero. One or more items may be included in this sequence.
...			
>>Beam Dose	(300a,0084)	3	Dose (in Gy) at Beam Dose Specification Point (300A,0082) due to current beam.
<b>&gt;&gt;Beam Dose Point Depth</b>	<b>(300A,0088)</b>	<b>3</b>	<b><u>The depth (in mm) in the patient along a ray from the source to the dose point specified by the Beam Dose Specification Point (300A,0082).</u></b>
<b>&gt;&gt;Beam Dose Point Equivalent Depth</b>	<b>(300A 0089)</b>	<b>3</b>	<b><u>The radiological depth in mm (water-equivalent depth, taking tissue heterogeneity into account) in the patient along a ray from the source to the dose point specified by the Beam Dose Specification Point (300A,0082).</u></b>
<b>&gt;&gt;Beam Dose Point SSD</b>	<b>(300A, 008A)</b>	<b>3</b>	<b><u>Source to patient surface distance along a ray from the source to the dose point specified by the Beam Dose Specification Point (300A,0082).</u></b>

**Add the following attributes to the PS 3.6 Section 6 (Data Dictionary)**

Tag	Name	VR	VM
<u>(300A,0088)</u>	<u>Beam Dose Point Depth</u>	<u>FL</u>	<u>1</u>
<u>(300A,0089)</u>	<u>Beam Dose Point Equivalent Depth</u>	<u>FL</u>	<u>1</u>
<u>(300A,008A)</u>	<u>Beam Dose Point SSD</u>	<u>FL</u>	<u>1</u>