

DICOM Change Proposal

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Change Number	CP-2516
Log Summary: Add Reference to Treatment Records in RT Beams Delivery Instructions	
Name of Standard	PS3.3
<p>Rationale for Change:</p> <p>When Treatment Delivery Type is CONTINUATION in the Beams Delivery Instruction Module, a treatment delivery device may require previous RT (Ion) Beams Treatment Record Instances in addition to the RT (Ion) Plan Instance to resume a partial fraction. The Beams Delivery Instruction Module contains a Referenced RT Plan Sequence but lacks a sequence to reference RT (Ion) Beams Treatment Record Instances. This CP adds the existing Referenced Treatment Record Sequence (3008,0030) to ensure that the treatment delivery device has all the necessary information to accurately deliver the planned radiotherapy treatment.</p>	

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Modify PS3.3 Section C.8.8.29 RT Beams Delivery Instruction Module, Table C.8.8.29-1. RT Beams Delivery Instruction Module Attributes as indicated Normalized IOD

C.8.8.29 RT Beams Delivery Instruction Module

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The RT Beams Delivery Instruction Module contains additional information required by a Treatment Delivery System (TDS) when specifying delivery of an external beam radiotherapy treatment. This information is supplied by a Treatment Management System (TMS) when it creates an RT Beams Delivery Instruction SOP Instance, a composite SOP Instance in turn referenced by a Unified Procedure Step (UPS) in the Unified Procedure Step model.

The RT Beams Delivery Instruction Module consists of a sequence of one or more beam tasks, where each beam task may also specify one or more Delivery Verification images to be acquired prior to, during, or after the treatment delivery.

Table C.8.8.29-1. RT Beams Delivery Instruction Module Attributes

Attribute Name	Tag	Type	Attribute Description
Referenced RT Plan Sequence	(300C,0002)	1	Reference to a single RT Plan or RT Ion Plan SOP Instance (whose UID is also supplied in the Input Information Sequence - see PS3.4) containing all the Beams and the Fraction Group referenced in this SOP Instance. Only a single Item shall be included in this Sequence.
>Include Table 10-11 "SOP Instance Reference Macro Attributes"			
<u>Referenced Treatment Record Sequence</u>	<u>(3008,0030)</u>	<u>3</u>	<u>Reference to one or more RT Beams Treatment Record or RT Ion Beams Treatment Record SOP Instances (whose UID is also supplied in the Input Information Sequence - see PS3.4) containing Beams previously delivered either</u>

Attribute Name	Tag	Type	Attribute Description
			<p><u>completely or partially for the fraction specified in Current Fraction Number (3008,0022).</u></p> <p><u>Shall not be present if Treatment Delivery Type (300A,00CE) is TREATMENT.</u></p> <p><u>One or more Items shall be included in this Sequence.</u></p>
<i>>Include Table 10-11 "SOP Instance Reference Macro Attributes"</i>			
Beam Task Sequence	(0074,1020)	1	<p>Specification of beams to be delivered and/or used for verification of the patient position.</p> <p>One or more Items shall be included in this Sequence.</p>
>Beam Task Type	(0074,1022)	1	<p>Whether the beam is used to verify patient position, deliver treatment, or both.</p> <p>Enumerated Values:</p> <p>VERIFY Verification of the patient position TREAT Beam treatment only VERIFY_AND_TREAT Patient position verification and treatment</p>
>Treatment Delivery Type	(300A,00CE)	1	<p>Delivery Type of treatment.</p> <p>Enumerated Values:</p> <p>TREATMENT normal patient treatment CONTINUATION continuation of interrupted treatment</p>
>Primary Dosimeter Unit	(300A,00B3)	1C	<p>Measurement unit of machine dosimeter.</p> <p>Enumerated Values:</p> <p>MU Monitor Unit MINUTE minute NP Number of Particles</p> <p>This value shall be the same as in the referenced RT Plan. It applies only to the Continuation Start Meterset (0074,0120) and Continuation End Meterset (0074,0121).</p> <p>Required if Treatment Delivery Type (300A,00CE) is CONTINUATION.</p>
>Continuation Start Meterset	(0074,0120)	1C	<p>Meterset within Beam referenced by Referenced Beam Number (300C,0006) at which treatment delivery starts, in units specified by Primary Dosimeter Unit (300A,00B3).</p> <p>Required if Treatment Delivery Type (300A,00CE) is CONTINUATION.</p>
>Continuation End Meterset	(0074,0121)	1C	<p>Meterset within Beam referenced by Referenced Beam Number (300C,0006) at which treatment delivery ends, in units specified by Primary Dosimeter Unit (300A,00B3).</p> <p>Required if Treatment Delivery Type (300A,00CE) is CONTINUATION.</p>
>Current Fraction Number	(3008,0022)	1	<p>The index of the fraction that is to be delivered or completed in this session. See Section C.8.8.29.1.</p>
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15 **C.8.8.29.1 Current Fraction Number**

For beams with a Treatment Delivery Type (300A,00CE) of CONTINUATION, the Current Fraction Number (3008,0022) is that of the original fraction to be completed by the current beam.