

DICOM Correction Proposal

STATUS	Final Text
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Correction Number	CP-1246
Log Summary:	Autosequencing Support in Beam Delivery Instruction
Name of Standard	PS 3 2011
Rationale for Correction:	<p>When delivering a Radiotherapy Treatment Fraction of an RT Plan, which contains several beams, the user may decide that all beams or groups of beams are delivered consecutively without user intervention. This decision is done on a case-by case base and therefore is tied to individual plans (it is not a characteristic of a delivery system). While the plan could re-define beams to fold them into one, this is could lead to significant uncertainties, where there is a need to trace back delivered beams to a planning system, or e.g. when beams need to be adapted in adaptive treatment situations, since the beam are redefined. Further on, there may be interest in specifying auto-sequencing after the first fraction is delivered, or depending on specific imaging procedures applied at specific fraction. This would cause changes in the RT Plan, although the dosimetric content does not change.</p> <p>Therefore this change proposal adds the specification of the auto-sequencing advice to the RT Beams Delivery Instruction IOD.</p>
Correction Wording:	

In PS 3.3, Section C.8.8.29 RT Beams Delivery Instruction Module, Table C.8.8.29-1, make the following changes:

Attribute Name	Tag	Type	Description
...			
>Referenced Beam Number	(300C,0006)	1	Uniquely identifies the Beam which is specified by Beam Number (300A,00C0) within Beam Sequence (300A,00B0) in RT Beams Module of referenced RT Plan or RT Ion Plan.
>Beam Order Index	(0074,1024)	3	Identifies required ordering of beam delivery, monotonically increasing by 1, starting from 1. <u>See C.8.8.29.5.</u>

Attribute Name	Tag	Type	Description
>Autosequence Flag	(0074,1025)	3	<u>Enumerate Value:</u> <u>YES: The current beam shall be automatically treated following the preceding beam as defined by the Beam Order Index (0074,1024).</u> <u>NO: The current beam shall not be auto-sequenced.</u> <u>See C.8.8.29.6.</u>

...

C.8.8.29.5 Beam Order Index

If the Beam Order Index (0074,1024) is present for any item in the Beam Task Sequence (0074,1020), it shall be provided for all items in that sequence.

C.8.8.29.6 Autosequence Flag

The Autosequence Flag (0074,1024) shall not be present when the Beam Order Index (0074,1024) is not present. The first treatment Beam (Beam Task Type (0074,1022) is not VERIFY) as specified by the Beam Order Index (0074,1024), shall have an Autosequence Flag (xxxx,yyyy) value of NO.

In PS 3.6, Section 6, add the following new attributes:

<u>(0074,1025)</u>	<u>Autosequence Flag</u>	<u>AutosequenceFlag</u>	<u>CS</u>	<u>1</u>
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