

DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2023/01/21
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Correction Number	CP-2244
Log Summary: Clarification for Number of RT Beam Limiting Device Openings	
Name of Standard PS3.3 2022e	
Rationale for Correction: Within the RT Control Point Sequence, the Number of RT Beam Limiting Device Openings is required even when no instances of Parallel RT Beam Delimiter Positions are present. This Correction Proposal provides an example to clarify this requirement.	
Correction Wording:	

In PS 3.3, modify section C.36.2.2.5.1.2.

C.36.2.2.5.1.2 Control Point Attribute Example

The following examples illustrate RT Control Points:

1. Static Beam delivery:

RT Control Point Index (300A,0600)	Cumulative Meterset (300A,063C)	All other parameters
1	0	<defined>
2	76	<not present>

At completion this beam delivers 76 Monitor Units using a fixed static set of treatment parameters defined in RT Control Point 1.

2. Arc delivery:

RT Control Point Index (300A,0600)	Cumulative Meterset (300A,063C)	Source Roll Angle (300A,067A)	All other parameters
1	0	<initial angle>	<defined>
2	56	<final angle>	<not present>

At completion this delivers 56 Monitor Units while rotating the gantry from initial angle to final angle.

3. Dynamic delivery of ~~three two equally weighted~~ segments, including a Source Roll Angle change during the second segment:

RT Control Point Index (300A,0600)	Cumulative Meterset (300A,063C)	Source Roll Angle (300A,067A)	Number of RT Beam Limiting Device Openings (300A,0657)	Parallel RT Beam Delimiter Positions (300A,064A) X Referenced Device Index 1	Parallel RT Beam Delimiter Positions(300A,064A) Y Referenced Device Index 2	RT Beam Limiting Device Angle (300A,0679)	All other parameters
1	0	<u>0</u>	<u>2</u>	2\2	2\2	30	<defined>
2	40	<not present>	<u>1</u>	<not present>	4\4	<not present>	<not present>
<u>3</u>	<u>80</u>			<u>4\4</u>	<not present>	<not present>	<not present>
<u>3</u>	<u>45</u>	<u>7</u>	<u>0</u>	<not present>	<not present>	<not present>	<not present>
<u>4</u>	<u>80</u>	<not present>	<u>1</u>	<u>4\4</u>	<not present>	<not present>	<not present>

At completion this delivers 80 Monitor Units while first increasing the Y opening and then increasing the X opening, while the beam limiting device angle stays fixed. For the RT Beam Limiting Device Opening Sequence (300A,0656) this results in having three Items for the first Control Point and only one for Control Points 2 (Referenced Device Index 2 only) and 4 (Referenced Device Index 1 only). **Control Point 3 demonstrates the case where no changes occur in the RT Beam Limiting Device Openings Sequence, requiring the Number of RT Beam Limiting Device Openings to be present with a 0 value.** See also Figure C.36.2.2.5.1-1.

In PS 3.3, replace Figure C.36.2.2.5.1.1-1 with the figure below..

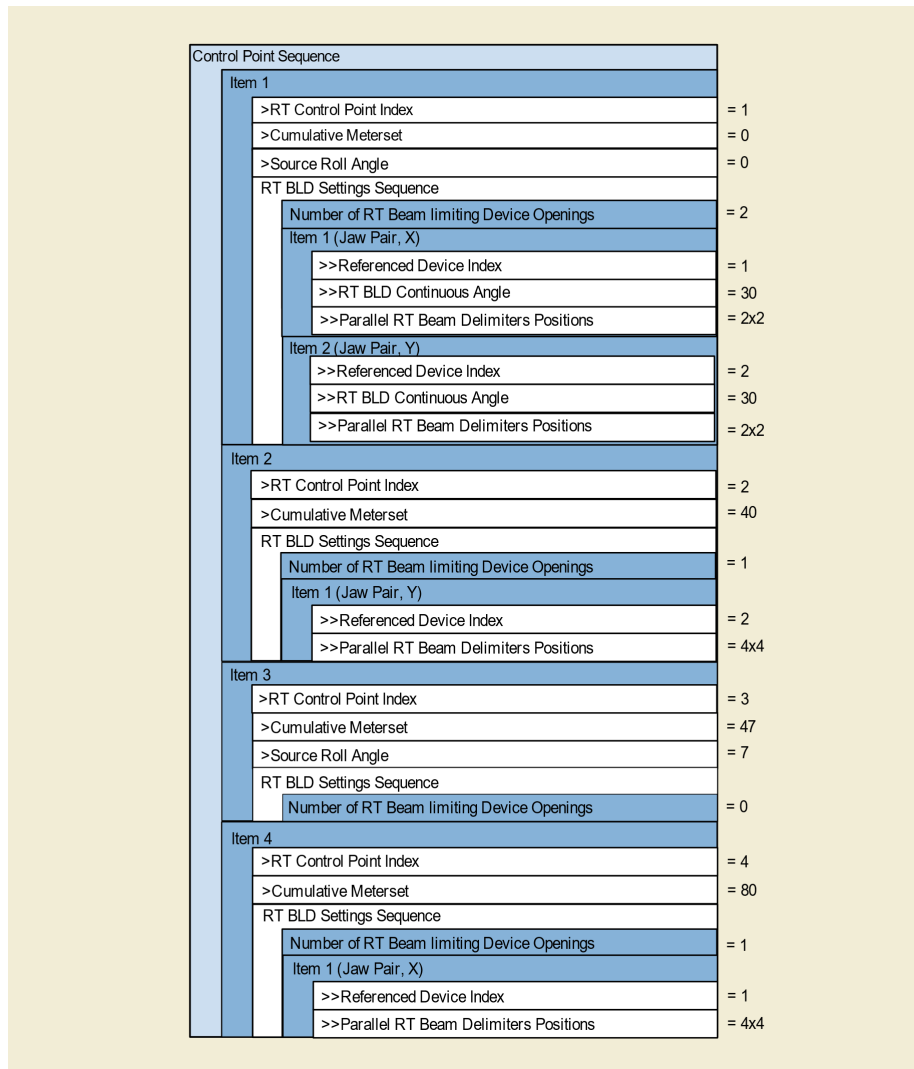


Figure C.36.2.2.5.1-1. Control Points Sub-Sequence Attribute Presence

- Dynamic Delivery of two unequally weighted segments with a step change of 5 degrees in the positive direction of the Patient Support Angle:

Note

Patient Support Angle is represented by the Image to Equipment Mapping Matrix (0028,9520). The table contains the effective angle and not the complete matrix.

RT Control Point Index (300A,0600)	Cumulative Meterset (300A,063C)	Image to Equipment Mapping Matrix (0028,9520)	Source Roll Angle (300A,067A)	All other parameters
1	0	0	-90	<defined>
2	30	<not present>	<not present>	<not present>
3	<not present>	5	0	<not present>
4	90	<not present>	<not present>	<not present>

At completion this delivers 90 Monitor Units. Between RT Control Point 2 and 3 the Patient Support Angle and Source Roll Continuous Angle are changed and no radiation is delivered.