

DICOM Correction Proposal

STATUS	Assigned
Date of Last Update	2018/03/12
Person Assigned	Ulrich Busch (ulrich.busch@varian.com)
Submitter Name	Ulrich Busch (ulrich.busch@varian.com)
Submission Date	2018/01/22

Correction Number	CP1784
Log Summary:	Add Algorithm Identification Macro to RT Structure Set
Name of Standard	PS 3.3 2018a
Rationale for Correction:	<p>In the context of Supplement 147, WG-07 determined that an elaborate description of the derivation of a segment from another segment is of interest in some cases. A representative case is the definition of new segment build from a RT treatment target and a margin around it.</p> <p>Out of several reasons it was concluded, that an inclusion of such a description into the Conceptual Volume Macros specified in Sup 147 is not appropriate. Neither is it necessary, since the Segmentation IOD and the Surface Segmentation IOD already contain an algorithm description in the C.8.20.4.1 Segment Description Macro, which in turn uses the 10-19 "Algorithm Identification Macro Attributes".</p> <p>The CP adds this macro to the RT Structure Set, so that this segment representation contains the same algorithm description as in other IODs. By doing so it will be possible to describe the segments of derived Conceptual Volumes in all current representations for volumetric segments (Segmentation IOD, Surface Segmentation IOD, RT Structure Sets).</p>
Correction Wording:	

In PS3.3, add the following to C.8.8.5 Structure Set Module

C.8.8.5 Structure Set Module

A structure set defines a set of areas of significance. Each area can be associated with a Frame of Reference and zero or more images. Information that can be transferred with each region of interest (ROI) includes geometrical and display parameters, and generation technique.

Table C.8-41. Structure Set Module Attributes

Attribute Name	Tag	Type	Attribute Description
Structure Set Label	(3006,0002)	1	User-defined label for Structure Set.
Structure Set Name	(3006,0004)	3	User-defined name for Structure Set.
Structure Set Description	(3006,0006)	3	User-defined description for Structure Set.
Instance Number	(0020,0013)	3	A number that identifies this object instance.
Structure Set Date	(3006,0008)	2	Date at which Structure Set was last modified.

Attribute Name	Tag	Type	Attribute Description
Structure Set Time	(3006,0009)	2	Time at which Structure Set was last modified.
Referenced Frame of Reference Sequence	(3006,0010)	3	Sequence describing Frames of Reference in which the ROIs are defined. One or more Items are permitted in this Sequence. See Section C.8.8.5.1.
>Frame of Reference UID	(0020,0052)	1	Uniquely identifies Frame of Reference within Structure Set.
>RT Referenced Study Sequence	(3006,0012)	3	Sequence of Studies containing series to be referenced. One or more Items are permitted in this Sequence. See Section C.8.8.5.4.
>>Include Table 10-11 "SOP Instance Reference Macro Attributes"			
>>RT Referenced Series Sequence	(3006,0014)	1	Sequence describing series of images within the referenced study that are used in defining the Structure Set. One or more Items shall be included in this Sequence.
>>>Series Instance UID	(0020,000E)	1	Unique identifier for the series containing the images.
>>>Contour Image Sequence	(3006,0016)	1	Sequence of items describing images in a given series used in defining the Structure Set (typically CT or MR images). One or more Items shall be included in this Sequence.
>>>>Include Table 10-3 "Image SOP Instance Reference Macro Attributes"			
Structure Set ROI Sequence	(3006,0020)	1	ROIs for current Structure Set. One or more Items shall be included in this Sequence.
>ROI Number	(3006,0022)	1	Identification number of the ROI. The value of ROI Number (3006,0022) shall be unique within the Structure Set in which it is created.
>Referenced Frame of Reference UID	(3006,0024)	1	Uniquely identifies Frame of Reference in which ROI is defined, specified by Frame of Reference UID (0020,0052) in Referenced Frame of Reference Sequence (3006,0010).
>ROI Name	(3006,0026)	2	User-defined name for ROI.
>ROI Description	(3006,0028)	3	User-defined description for ROI.
>ROI Volume	(3006,002C)	3	Volume of ROI (cubic centimeters).
>ROI Generation Algorithm	(3006,0036)	2	Type of algorithm used to generate ROI. Defined Terms: AUTOMATIC calculated ROI SEMI-AUTOMATIC ROI calculated with user assistance MANUAL user-entered ROI
>ROI Generation Description	(3006,0038)	3	User-defined description of technique used to

Attribute Name	Tag	Type	Attribute Description
			generate ROI.
>Transformation Algorithm Sequence	(0022,1513)	3	<u>Software algorithm that performed the mapping. Only a single Item shall be included in this Sequence.</u>
<u>>>Include Table 10-19 "Algorithm Identification Macro Attributes"</u>			
>Derivation Code Sequence	(0008,9215)	3	A coded description of how this ROI was derived. One or more Items are permitted in this Sequence. See Section C.8.8.5.3 for further explanation.
<i>>>Include Table 8.8-1 "Code Sequence Macro Attributes".</i>			<i>Enumerated Value (113085, DCM, "Spatial resampling").</i>
Predecessor Structure Set Sequence	(3006,0018)	3	The Structure Set that has been used to derive the current Structure Set. Only a single item is permitted in this Sequence.
<i>>Include Table 10-11 "SOP Instance Reference Macro Attributes"</i>			