

DICOM Correction Item

Correction Number CP 796	
Log Summary: RT ROI Materials Description	
Type of Modification Addition	Name of Standard PS 3 2007
Rationale for Correction: For advanced dose calculation algorithms, the exact composition of the material needs to be available in the dose calculation. The isotopic composition of the atom is not relevant, as this does not affect the result.	
Sections of documents affected PS 3.3 PS 3.6	
Correction Wording:	

In PS 3.3 Section C.8.8.8 RT ROI Observations Module, Table C.8-44 RT ROI Observations Module Attributes, add the following Defined Term to ROI Physical Property (3006,00B2 and after):

>>ROI Physical Property	(3006,00B2)	1C	Physical property specified by ROI Physical Property Value (3006,00B4). Required if ROI Physical Properties Sequence (3006,00B0) is sent. Defined Terms: REL_MASS_DENSITY = mass density relative to water REL_ELEC_DENSITY = electron density relative to water EFFECTIVE_Z = effective atomic number EFF_Z_PER_A = effective ratio of atomic number to mass (AMU ⁻¹) <u>ELEM_FRACTION = elemental composition of the material.</u>
<u>>>ROI Elemental Composition Sequence</u>	<u>(3006,00B6)</u>	<u>1C</u>	<u>The elemental composition of the ROI and the atomic mass fraction of the elements in the ROI. Shall be required if ROI Physical Property (3006,00B2) equals ELEM_FRACTION. One or more items may be included in this sequence.</u>
<u>>>>ROI Elemental Composition Atomic Number</u>	<u>(3006,00B7)</u>	<u>1</u>	<u>The atomic number of the element for which the ROI Elemental Composition Sequence (3006,xxxx) is sent.</u>
<u>>>>ROI Elemental Composition Atomic Mass Fraction</u>	<u>(3006,00B8)</u>	<u>1</u>	<u>The fractional weight of the element for which the ROI Elemental Composition Sequence (3006,xxxx) is sent. The sum of all ROI Elemental Composition Atomic Mass Fractions (3006,zzzz) sent in the ROI Elemental Composition</u>

			<u>Sequence (3006,xxxx) shall equal 1.0 within acceptable limits of floating point precision.</u>
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In PS 3.6, add the following:

(3006.00B6)	ROI Elemental Composition Sequence	SQ	1
(3006.00B7)	ROI Elemental Composition Atomic Number	US	1
(3006.00B8)	ROI Elemental Composition Atomic Mass Fraction	FL	1