

DICOM Correction Item

Correction Number		CP-1038
Log Summary: Hanging protocol reference to color palette instances		
Type of Modification	Name of Standard	
Addition	PS 3.3 2009	
<p>Rationale for Correction</p> <p>Hanging protocols contain instructions for presentation as grayscale or color, including a reference to applying a pseudo-color palette, currently a (short) list of (arbitrary) defined terms.</p> <p>Now that there is support for persistence and identification of color palettes, and a set of standard palettes, hanging protocols should be updated to reference them specifically.</p> <p>Note that this mechanism is not applicable to structured display, which instead uses presentation states to define presentation.</p>		
<p>Sections of documents affected</p> <p>PS 3.3 C.23.3</p> <p>PS 3.6</p>		
Correction Wording:		

Amend PS 3.3 C.23.3:

C.23.3 Hanging Protocol Display Module

....

**Table C.23.3-1
Hanging Protocol Display Module Attributes**

Attribute Name	Tag	Type	Attribute Description
...
>VOI Type	(0072,0702)	3	<p>Expected value of interest transformation for display (e.g., Window Center and Window Width or VOI LUT).</p> <p>Defined Terms: LUNG MEDIASTINUM ABDO_PELVIS LIVER SOFT_TISSUE BONE BRAIN POST_FOSSA</p>
>Pseudo-Color Type	(0072,0704)	3	A category of pseudo-color palette choice to be applied after application of the VOI LUT. If this attribute is not present, a pseudo-color palette

Attribute Name	Tag	Type	Attribute Description
			<p>shall not be applied.</p> <p>Defined Terms are the values of Content Label (0070,0080) in the list of standard color palettes defined in PS 3.6 Well-Known Color Palettes.:</p> <p>BLACK_BODY</p> <p>HOT_IRON</p> <p>DEFAULT</p>
<p>>Pseudo-Color Palette Instance Reference Sequence</p>	<p>(0072,0705)</p>	<p>1C</p>	<p>Reference to a Color Palette Storage Instance to be applied after application of the VOI LUT.</p> <p>One Item shall be present.</p> <p>The Referenced SOP Class UID (0008,1150) shall be "1.2.840.10008.5.1.4.39.1".</p> <p>If the value of Pseudo-Color Type (0072,0704) is a reference to the Content Label (0070,0080) of a standard palette, the Referenced SOP Instance UID (0008,1155) shall be the corresponding Well-known SOP Instance UID defined in PS 3.6.</p> <p>Required if Pseudo-Color Type (0072,0704) is a reference to a standard palette. May be present otherwise if Pseudo-Color Type (0072,0704) is present.</p>
<p>>>Include 'SOP Instance Reference Macro' Table 10-11</p>			
<p>>Show Grayscale Inverted</p>	<p>(0072,0706)</p>	<p>3</p>	<p>Whether or not to invert the rendered luminance of the displayed values. See C.23.3.1.4.</p> <p>Enumerated values:</p> <p>YES = The maximum output value after the display pipeline has been applied shall be displayed with the minimum available luminance.</p> <p>NO = The maximum output value after the display pipeline has been applied shall be displayed with the maximum available luminance.</p> <p>Notes: 1. The YES and NO values of this Attribute correspond to the Presentation LUT Shape (2050,0020) values of INVERSE and IDENTITY, as described in C.11.6.1.2.</p> <p>2. Only applicable to display of grayscale images.</p>
<p>...</p>	<p>...</p>	<p>...</p>	<p>...</p>

Add PS 3.6 data element:

(0072,0705) **Pseudo-Color Palette Instance Reference Sequence** **PseudoColorPaletteInstanceReferenceSequence** **SQ** **1**

For reference PS 3.6:

B.1 STANDARD COLOR PALETTES

Table B.1-1 lists the color palettes that are defined by the DICOM Standard.

**Table B.1-1
Standard Color Palettes**

Well-known SOP Instance UID	Content Label (0070,0080)	Content Description (0070,0081)	Section	URL of Reference Encoded Instance
1.2.840.10008.1.5.1	HOT_IRON	Hot Iron	B.1.1	ftp://medical.nema.org/Medical/Dicom/Palettes/hotiron.dcm
1.2.840.10008.1.5.2	PET	PET	B.1.2	ftp://medical.nema.org/Medical/Dicom/Palettes/pet.dcm
1.2.840.10008.1.5.3	HOT_METAL_BLUE	Hot Metal Blue	B.1.3	ftp://medical.nema.org/Medical/Dicom/Palettes/hotmetalblue.dcm
1.2.840.10008.1.5.4	PET_20_STEP	PET 20 Step	B.1.4	ftp://medical.nema.org/Medical/Dicom/Palettes/pet20step.dcm