

## DICOM Correction Item

Correction Number	CP-774
Log Summary: Correct Presentation State frame reference condition	
Type of Modification	Name of Standard
Correction	PS 3.3 2007
Rationale for Correction <p>Presentation states specify the list of images and frames to which they apply, but contain components including displayed area selection, graphic and text annotation, and VOI (window) parameters that may be specific to a subset of images or frames.</p> <p>This mechanism was designed to allow specificity of reference down to the frame level. However, the condition on Referenced Image Sequence inadvertently restricts its use when there happens to be only a single multi-frame image (as opposed to multiple multi-frame or multiple single-frame images or a mixture), which was not the intent.</p>	
Sections of documents affected PS 3.3 A.33.2, C.10.4, C.10.5, C.11.8, C.11.14	
Correction Wording:	

### **A.33.2.2 Color Softcopy Presentation State IOD Module Table**

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In the Color Softcopy Presentation State IOD, the Presentation Series Module specializes some Attributes of the General Series Module, and the Presentation State **Relationship** Module specializes some Attributes of the Bitmap Display Shutter and Display Shutter Modules.

**C.10.4          Displayed Area Module**

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**Table C.10-4  
 DISPLAYED AREA MODULE ATTRIBUTES**

<b>Attribute Name</b>	<b>Tag</b>	<b>Type</b>	<b>Attribute Description</b>
Displayed Area Selection Sequence	(0070,005A)	1	A sequence of Items each of which describes the displayed area selection for a group of images or frames. Sufficient Items shall be present to describe every image and frame listed in the Presentation State <b>Relationship</b> Module. One or more Items shall be present.
>Referenced Image Sequence	(0008,1140)	1C	Sequence of Repeating Items where each Item provides reference to a selected set of Image SOP Class/SOP Instance pairs that are defined in the Presentation State <b>Relationship</b> Module. Required if a sequence item is present, and if the displayed area selection in this Item does not apply to all the images <b>and frames</b> listed in the Presentation State <b>Relationship</b> Module.
<i>&gt;&gt;Include 'Image SOP Instance Reference Macro' Table 10-3</i>			
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**C.10.5 Graphic Annotation Module**

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**Table C.10-5  
 GRAPHIC ANNOTATION MODULE ATTRIBUTES**

<b>Attribute Name</b>	<b>Tag</b>	<b>Type</b>	<b>Attribute Description</b>
Graphic Annotation Sequence	(0070,0001)	1	A sequence of Items each of which represents a group of annotations composed of graphics or text or both. One or more Items shall be present.
>Referenced Image Sequence	(0008,1140)	1C	Sequence of Repeating Items where each Item provides reference to a selected set of Image SOP Class/SOP Instance pairs that are defined in the Presentation State <b>Relationship</b> Module.  Required if a sequence item is present, and if graphic annotations in this Item do not apply to all the images <b>and frames</b> listed in the Presentation State <b>Relationship</b> Module.
<i>&gt;&gt;Include 'Image SOP Instance Reference Macro' Table 10-3</i>			
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**C.11.8 Softcopy VOI LUT module**

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**Table C.11.8-1  
 SOFTCOPY VOI LUT MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
Softcopy VOI LUT Sequence	(0028,3110)	1	Defines a sequence of VOI LUTs or Window Centers and Widths and to which images and frames they apply.  No more than one VOI LUT Sequence containing a single Item or one pair of Window Center/Width values shall be specified for each image or frame.  One or more Items shall be present.
>Referenced Image Sequence	(0008,1140)	1C	Sequence of Items where each Item provides reference to a selected set of Image SOP Class/SOP Instance pairs that are defined in the Presentation State <b>Relationship</b> Module, to which this VOI LUT or Window Center and Width applies.  Required if the VOI LUT transformation in this Item does not apply to all the images <b>and frames</b> listed in the Presentation State <b>Relationship</b> Module.
<i>&gt;&gt;Include Image SOP Instance Reference Macro Table 10-3</i>			
<i>&gt;Include VOI LUT Macro Table C.11-2b</i>			

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**C.11.14 Presentation State Blending Module**

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**Table C.11.14-1  
 PRESENTATION STATE BLENDING MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
Blending Sequence	(0070,0402)	1	A Sequence of exactly two Items, one identifying and describing transformations upon a set of underlying grayscale images, and the other identifying and describing transformations upon a set of superimposed grayscale images. See C.11.14.1.1.
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<i>&gt;Include Presentation State Relationship Macro Table C.11.11-1b</i>			
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>Softcopy VOI LUT Sequence	(0028,3110)	1	Defines a sequence of VOI LUTs or Window Centers and Widths and to which images and frames they apply.  No more than one VOI LUT Sequence containing a single Item or one pair of Window Center/Width values shall be

			specified for each image or frame. One or more Items shall be present.
>>Referenced Image Sequence	(0008,1140)	1C	Sequence of Items identifying images that are defined in the enclosing Item of the Blending Sequence (0070,0402), to which this VOI LUT or Window Center and Width applies.  Required if the VOI LUT transformation in this Item does not apply to all the images <b><u>and frames</u></b> in the enclosing Item of the Blending Sequence (0070,0402).
<i>&gt;&gt;&gt;Include Image SOP Instance Reference Macro Table 10-3</i>			
<i>&gt;&gt;Include VOI LUT Macro Table C.11-2b</i>			
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