

## DICOM Correction Proposal

|                     |   |
|---------------------|---|
| STATUS              | Final Text  |
| Date of Last Update | 2012/08/22 (amended 2013/0/04)  |
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| Submission Date     | 2006/10/17  |

|                           |  |
|---------------------------|--|
| Correction Number         | CP-739   |
| Log Summary:              | Add View Code Sequence to CT, MR, SC for Cardiac Views   |
| Name of Standard          | PS 3 2011  |
| Rationale for Correction: | <p>NM, PET and ultrasound (echocardiography) IODs specifically support the use of View Code Sequence and suitable codes to identify the short and long axes of the heart.</p> <p>However, the existing CT and MR (including Enhanced) IODs do not specify the presence of this attribute. This information cannot be derived reliably from the Image Orientation (Patient) attribute since the view is cardiac-relative not patient-relative and the axis of the heart has an inconsistent relationship with the patient axes in pathological conditions and anatomic variants. Cardiac views may also be stored as secondary capture images that do not usually contain any orientation information.</p> <p>Accordingly, View Code Sequence is added as an optional attribute to the appropriate modality-specific modules (rather than the General Image Module, which would cause conflict or ambiguity with the usage in other existing IODs, particularly the NM IOD, in which View Code Sequence is nested).</p> <p>Slice Progression Direction is also added to the CT, MR and SC IODs, with an explicit “order” of the slices being defined by increasing values of Instance Number.</p> <p>This is achieved through use of a new macro.</p> <p>In addition the existing uses of Slice Progression Direction are updated to include additional enumerated values suitable for the long axis views that were introduced in Enhanced PET, but never propagated elsewhere.</p> <p>A specific context group for cardiac views is factored out of the existing NM/PET context groups.</p> <p><i>Note that the originally balloted version made use of the Sup 117 View Code functional group macro, which was not used in the Final Text after all, but included in the Enhanced PET Acquisition Module directly.</i></p> <p><i>Note that the original Final Text omitted a CID number and UID for CID 27 Basic Cardiac Views and incorrectly included conditional requirements for the Optional macro attributes, which have been removed.</i></p> |
| Correction Wording:       | Make changes indicated below.  |

*Add new macros, based on the Enhanced PET Acquisition Module information, amended to include the condition that slice progression direction be included for long as well as short axes, and to condition the enumerated value choices on the appropriate view, with the description of slice progression direction generalized to cover single and non-enhanced and enhanced multi-frame uses:*

## 10.20 Mandatory View and Slice Progression Direction Macro

Table 10-24 specifies the Attributes that describe the view, and in the case of cardiac views, the direction of the slices relative to the cardiac anatomy.

**Table 10-24  
MANDATORY VIEW AND SLICE PROGRESSION DIRECTION ATTRIBUTES**

| Attribute Name   | Tag         | Type   | Attribute Description  |
|--|-------------|--|--|
| View Code Sequence                                       | (0054,0220) | 1  | Sequence that describes the projection of the anatomic region of interest.<br>Only a single Item shall be included in this sequence.   |
| <i>&gt;Include 'Code Sequence Macro' Table 8.8-1</i>     |             | <i>Baseline CID 26 unless otherwise specified in invocation.</i> |  |
| >View Modifier Code Sequence                             | (0054,0222) | 2C   | View Modifier.<br>Required if needed to fully specify the View.<br>Zero or more items shall be included in this sequence.  |
| <i>&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</i> |             | <i>Baseline CID 23 unless otherwise specified in invocation.</i> |  |
| Slice Progression Direction                              | (0054,0500) | 1C   | Describes the anatomical direction in which a set of slices is progressing (see 10.20.1.1). Meaningful only for cardiac images.<br>Enumerated Values are defined in 10.20.1.1.<br>Required if View Code Sequence (0054,0220) equals (G-A186, SRT, "Short Axis") or (G-A18A, SRT, "Vertical Long Axis") or (G-A18B, SRT, "Horizontal Long Axis"). May be present otherwise. |

### 10.20.1 Mandatory View and Slice Progression Direction Macro Attributes

#### 10.20.1.1 Slice Progression Direction

The image or frame order to which the Slice Progression Direction (0054,0500) applies depends on the IOD:

- In the case of Enhanced Multi-frame IODs, in which a Stack ID (0020,9056) may be defined, the Stack ID (0020,9056) shall be used, and the slices are considered in order by In Stack Position Number (0020,9057)
- In the case of Multi-frame IODs that are not Enhanced, the slices are considered in encoded frame order
- In the case of single-frame IODs, the order is defined by increasing values of Instance Number

The Enumerated Values depend on the view:

- If View Code Sequence (0054,0220) indicates a short axis view, such as when it equals (G-A186, SRT, "Short Axis"):

APEX\_TO\_BASE

BASE\_TO\_APEX

- If View Code Sequence (0054,0220) indicates a vertical long axis view, such as when it equals (G-A18A,SRT,“Vertical Long Axis”):

ANT\_TO\_INF = Anterior to Inferior

INF\_TO\_ANT = Inferior to Anterior

- If View Code Sequence (0054,0220) indicates a horizontal long axis view, such as when it equals (G-A18B,SRT,“Horizontal Long Axis”):

SEPTUM\_TO\_WALL = Septum to Lateral Wall

WALL\_TO\_SEPTUM = Lateral Wall to Septum

Note: The conditions on the choice of enumerated values are relatively general, rather than specific to a single coded view, in order to accommodate the echocardiography views defined in PS 3.16 CID 12226, in addition to the views for CT, MR, NM and PET defined in PS 3.16 CID cid001.

### 10.21 Optional View and Slice Progression Direction Macro

Table 10-25 specifies the Attributes that describe the view, and in the case of cardiac views, the direction of the slices relative to the cardiac anatomy.

**Table 10-25**  
**OPTIONAL VIEW AND SLICE PROGRESSION DIRECTION ATTRIBUTES**

| Attribute Name   | Tag         | Type   | Attribute Description  |
|--|-------------|--|--|
| View Code Sequence                                       | (0054,0220) | 3  | Sequence that describes the projection of the anatomic region of interest.<br>Only a single Item shall be included in this sequence.   |
| <i>&gt;Include 'Code Sequence Macro' Table 8.8-1</i>     |             | <i>Baseline CID 26 unless otherwise specified in invocation.</i> |  |
| <i>&gt;View Modifier Code Sequence</i>                   | (0054,0222) | 3  | View Modifier.<br>One or more Items are permitted in this sequence.  |
| <i>&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</i> |             | <i>Baseline CID 23 unless otherwise specified in invocation.</i> |  |
| Slice Progression Direction                              | (0054,0500) | 3  | Describes the anatomical direction in which a set of slices is progressing (see 10.20.1.1). Meaningful only for cardiac images.<br>Enumerated Values are defined in 10.20.1.1. |

*Use the new macro in the existing Enhanced PET Acquisition Module information, which has the effect of requiring the slice progression direction be included for long as well as short axes, and to make the modifier mandatory and potentially multi-valued; neither of these are expected to have any practical impact given the non-existence of any installed base yet:*

### C.8.22.2 Enhanced PET Acquisition Module

Table C.8.22-2 specifies the Attributes that describe PET Acquisitions.

**Table C.8.22-2  
ENHANCED PET ACQUISITION MODULE ATTRIBUTES**

| Attribute Name   | Tag                    | Type                        | Attribute Description  |
|--|------------------------|-----------------------------|--|
| ...  | ...                    | ...                         | ...  |
| Time of Flight Information Used  | (0018,9755)            | 1                           | Specifies whether or not Time-of-Flight information was used in creation of the image.<br>Enumerated Values:<br>TRUE<br>FALSE  |
| <del>View Code Sequence</del>  | <del>(0054,0220)</del> | <del>4</del>                | <del>Sequence that describes the projection of the anatomic region of interest.<br/>Only a single Item shall be included in this sequence.</del>   |
| <del>&gt;Include 'Code Sequence Macro' Table 8.8-1</del>                             |                        | <del>Baseline CID 26.</del> |  |
| <del>&gt;View Modifier Code Sequence</del>   | <del>(0054,0222)</del> | <del>2C</del>               | <del>View Modifier.<br/>Required if needed to fully specify the View.<br/>Zero or one item shall be included in this sequence.</del>   |
| <del>&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</del>                         |                        | <del>Baseline CID 23.</del> |  |
| <del>Slice Progression Direction</del>   | <del>(0054,0500)</del> | <del>1C</del>               | <del>Describes the anatomical direction that a set of slices, identified by the same Stack ID (0020,9056), are progressing, as the slices are considered in order by In Stack Position Number (0020,9057).<br/>Meaningful only for cardiac images.<br/>Enumerated are:<br/>APEX_TO_BASE<br/>BASE_TO_APEX<br/>ANT_TO_INF = Anterior to Inferior<br/>INF_TO_ANT = Inferior to Anterior<br/>SEPTUM_TO_WALL = Septum to Lateral Wall<br/>WALL_TO_SEPTUM = Lateral Wall to Septum<br/><br/>Required if View Code Sequence (0054,0220) equals (G-A186, SRT, "Short Axis"). May be present otherwise.</del> |
| <del>Include Table 10-24 Mandatory View and Slice Progression Direction Macro.</del> |                        |                             |  |

*Add View Code Sequence and Slice Progression Direction to PS 3.3 C.8.15.2 Enhanced CT Image Module (there is no Enhanced CT Acquisition Module or other more suitable image-level module):*

**C.8.15.2 Enhanced CT Image Module**

This section describes the Enhanced CT Image Module. Table C.8-114 specifies the attributes of the Enhanced CT Image Module.

**Table C.8-114  
ENHANCED CT IMAGE MODULE ATTRIBUTES**

| Attribute Name   | Tag         | Type             | Attribute Description  |
|--|-------------|------------------|--|
| ...  | ...         | ...              | ...  |
| Icon Image Sequence  | (0088,0200) | 3                | This icon image is representative of the Image.<br>Only a single Item is permitted in this Sequence. |
| >Include 'Image Pixel Macro' Table C.7-11b   |             | See Section F.7. |  |
| <b><i>Include Table 10-25 Optional View and Slice Progression Direction Macro.</i></b> |             |                  |  |

*Add View Code Sequence and Slice Progression Direction to PS 3.3 C.8.13.1 Enhanced MR Image Module (there is no Enhanced MR Acquisition Module or other more suitable image-level module):*

**C.8.13.1 Enhanced MR Image Module**

This section describes the Enhanced MR Image Module.

Table C.8-79 specifies the attributes of the Enhanced MR Image module.

**Table C.8-79  
ENHANCED MR IMAGE MODULE ATTRIBUTES**

| Attribute Name   | Tag         | Type             | Attribute Description  |
|--|-------------|------------------|--|
| ...  | ...         | ...              | ...  |
| Icon Image Sequence  | (0088,0200) | 3                | This icon image is representative of the Image.<br>Only a single Item is permitted in this Sequence. |
| >Include 'Image Pixel Macro' Table C.7-11b   |             | See Section F.7. |  |
| <b><i>Include Table 10-25 Optional View and Slice Progression Direction Macro.</i></b> |             |                  |  |

*Add View Code Sequence and Slice Progression Direction to PS 3.3 C.8.2.1 CT Image Module:*

**C.8.2.1 CT Image Module**

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**Table C.8-3  
CT IMAGE MODULE ATTRIBUTES**

| Attribute Name   | Tag | Type   | Attribute Description |
|--|-----|--|-----------------------|
| ...  | ... | ...  | ...                   |
| Include 'General Anatomy Optional Macro' Table 10-7                                    |     | Defined Context ID for the Anatomic Region Sequence is 4030. |                       |
| <b><i>Include Table 10-25 Optional View and Slice Progression Direction Macro.</i></b> |     |  |                       |

*Add View Code Sequence to PS 3.3 C.8.3.1 MR Image Module:*

**C.8.3.1 MR Image Module**

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**Table C.8-4  
MR IMAGE MODULE ATTRIBUTES**

| <b>Attribute Name</b>  | <b>Tag</b> | <b>Type</b> | <b>Attribute Description</b> |
|--|------------|-------------|------------------------------|
| ...  | ...        | ...         | ...                          |
| <i><b>Include Table 10-25 Optional View and Slice Progression Direction Macro.</b></i> |            |             |                              |

*Add View Code Sequence to PS 3.3 C.8.6.2 SC Image Module:*

**C.8.6.2 SC Image Module**

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**Table C.8-25  
SC IMAGE MODULE ATTRIBUTES**

| <b>Attribute Name</b>  | <b>Tag</b> | <b>Type</b> | <b>Attribute Description</b> |
|--|------------|-------------|------------------------------|
| ...  | ...        | ...         | ...                          |
| <i>Include Basic Pixel Spacing Calibration Macro (Table 10-10)</i>                     |            |             |                              |
| <i><b>Include Table 10-25 Optional View and Slice Progression Direction Macro.</b></i> |            |             |                              |

*For information, here is the use of View Code Sequence in the Nuclear Medicine Modules; cannot refactor to use the macro, since it is nested within a sequence (Detector Information Sequence), and Slice Progression Direction is in a different module at the top level (NM Reconstruction Module).*

#### **C.8.4.11 NM Detector Module**

Table C.8-11 contains IOD Attributes that describe Nuclear Medicine Detectors used to produce an image.

**Table C.8-11  
NM DETECTOR MODULE ATTRIBUTES**

| <b>Attribute Name</b>                        | <b>Tag</b>  | <b>Type</b>   | <b>Attribute Description</b>   |
|--|-------------|---|--|
| Detector Information Sequence                | (0054,0022) | 2   | Sequence of Repeating Items that describe the detectors used. The number of items shall be equal to Number of Detectors (0054,0021). The first item corresponds to frames with value of 1 in the Detector Vector (0054,0020), the second item with value 2, etc. |
| ...  | ...         | ...   | ...  |
| >View Code Sequence                          | (0054,0220) | 3   | Sequence that describes the projection of the anatomic region of interest on the image receptor.<br>Only a single Item is permitted in this sequence.  |
| >>Include 'Code Sequence Macro' Table 8.8-1  |             | <i>Baseline Context ID is 26 .<br/>Code Meaning (0008,0104) shall be Type 3 for historical reasons.</i> |  |
| >>View Modifier Code Sequence                | (0054,0222) | 2C  | View Modifier. Required if needed to fully specify the View.<br>Zero or one Item shall be included in this sequence.   |
| >>>Include 'Code Sequence Macro' Table 8.8-1 |             | <i>Baseline Context ID is 23.<br/>Code Meaning (0008,0104) shall be Type 3 for historical reasons.</i>  |  |

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##### **C.8.4.11.1.7 View Code Sequence**

Only a single Item shall be permitted in this sequence.

##### **C.8.4.11.1.8 View Modifier Code Sequence**

Only a single Item shall be permitted in this sequence.

*Add to the list of slice progression values in the NM Reconstruction Module; cannot refactor to use the macro, since it is in a different module (NM Detector Module) and nested within a sequence (Detector Information Sequence).*

#### **C.8.4.15 NM Reconstruction Module**

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**Table C.8-15  
NM RECONSTRUCTION MODULE ATTRIBUTES**

| Attribute Name              | Tag         | Type | Attribute Description  |
|-----------------------------|-------------|------|--|
| ...                         | ...         | ...  | ...  |
| Slice Progression Direction | (0054,0500) | 3    | <p>Describes the anatomical direction that slices are progressing as the slices are considered in order (as defined by the Slice Vector (0054,0080)). Meaningful only for cardiac images.</p> <p>When View Code Sequence (0054,0220) indicates a short axis view, then Enumerated Values are:</p> <p align="center">APEX_TO_BASE<br/>BASE_TO_APEX</p> <p><b>When View Code Sequence (0054,0220) indicates a vertical axis view, then Enumerated Values are:</b></p> <p align="center">_____<br/>ANT TO INF<br/>_____<br/>INF TO ANT<br/>_____</p> <p><b>When View Code Sequence (0054,0220) indicates a horizontal long axis view, then Enumerated Values are:</b></p> <p align="center">_____<br/>SEPTUM TO WALL<br/>_____<br/>WALL TO SEPTUM<br/>_____</p> |

*Use the Macro in the Ultrasound Modules:*

**C.8.5.6 US Image Module**

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**Table C.8-18  
US IMAGE MODULE ATTRIBUTES**

| Attribute Name  | Tag                | Type   | Attribute Description  |
|---|--------------------|--|--|
| ...   | ...                | ...  | ...  |
| <b>View Code Sequence</b>   | <b>(0054,0220)</b> | <b>3</b>   | <p><b>Sequence that describes the view of the patient anatomy in this image. Only a single Item is permitted in this Sequence. See Section C.8.5.6.1.19.</b></p> |
| <b>&gt;Include 'Code Sequence Macro' Table 8.8-1</b>  |                    | <b>See Section C.8.5.6.1.19 for Context Group IDs.</b> |  |
| <b>&gt;View Modifier Code Sequence</b>  | <b>(0054,0222)</b> | <b>3</b>   | <p><b>Sequence that provides modifiers for the view of the patient anatomy. One or more Items are permitted in this Sequence. See Section C.8.5.6.1.19.</b></p>  |
| <b>&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</b>  |                    | <b>See Section C.8.5.6.1.19 for Context Group IDs.</b> |  |
| <b>Include Table 10-25 Optional View and Slice Progression Direction Macro. See Section C.8.5.6.1.19 for Context Group IDs.</b> |                    |  |  |



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### C.8.5.6.1.19 View Code Sequence

The view of the patient anatomy may be described using coded terminology in the View Code Sequence (0054,0220). The view is typically specified by transducer position relative to the patient anatomy and/or transducer orientation,

The view may be described by a single Code Sequence Item, or by combination of post-coordinated Code Sequence Items. The principal coded item is specified in View Code Sequence, and modifier terms in the View Modifier Code Sequence (0054,0222). The Baseline Context IDs for post-coordinated encoding of view are:

- BCID 4 Anatomic Region (typically used for the primary coded item)
- BCID 5 Transducer Approach
- BCID 6 Transducer Orientation
- BCID 7 Ultrasound Beam Path

Any of these Context Groups may be used in either the View Code Sequence or the View Modifier Code Sequence.

For cardiac imaging, a Baseline Context ID with pre-coordinated view codes is specified:

- BCID 12226 Echocardiography Image View

Note: Transducer Position Sequence (0008,2240) and Transducer Orientation Sequence (0008,2244), defined in this module in an earlier edition of the Standard (see PS3.3-2004), are retired.

*Use the Macro in the Enhanced Ultrasound Modules; note that the conditions are slightly different and Slice Progression Direction becomes required, but since this is a relatively new IOD, this is not thought to affect implementations.*

### C.8.24.3 Enhanced US Image Module

Table C.8.24.3-1 specifies the Attributes that describe the Enhanced US Image Module. As described in Section A.1.2.6, the Attributes in this Module apply to the first frame of a multi-frame image; any or all of this information may be overridden by Attributes in Per-frame Functional Groups.

**Table C.8.24.3-1  
ENHANCED US IMAGE MODULE ATTRIBUTES**

| Attribute Name   | Tag                | Type   | Attribute Description  |
|--|--------------------|--|--|
| ...  | ...                | ...  | ...  |
| <b>View Code Sequence</b>                                | <b>(0054,0220)</b> | <b>1</b>   | <b>Sequence that describes the view of the patient anatomy in this image. Only a single Item shall be included in this Sequence. See Section C.8.5.6.1.19.</b> |
| <b>&gt;Include 'Code Sequence Macro' Table 8.8-1</b>     |                    | <b>See Section C.8.5.6.1.19 for Context Group ID's</b> |  |
| <b>&gt;View Modifier Code Sequence</b>                   | <b>(0054,0222)</b> | <b>3</b>   | <b>Sequence that provides modifiers for the view of the patient anatomy. One or more Items are permitted in this Sequence. See Section C.8.5.6.1.19.</b>       |
| <b>&gt;&gt;Include 'Code Sequence Macro' Table 8.8-1</b> |                    | <b>See Section C.8.5.6.1.19 for Context Group ID's</b> |  |

***Include Table 10-24 Mandatory View and Slice Progression Direction Macro. See Section C.8.5.6.1.19 for Context Group ID's.***

|                      |             |     |  |
|----------------------|-------------|-----|--|
| Event Timer Sequence | (0008,2133) | 3   | Sequence of time intervals of significance to this image. Each item describes one time interval either beginning or ending at Acquisition Datetime (0008,002A).<br>One or more Items are permitted in this Sequence. |
| ...                  | ...         | ... | ...  |

*Use the Macro in the PET Image Module; this has the side effect of making the modifier Type3 instead of 2C and also increases its multiplicity, but this is not expected to have any practical negative impact:*

**C.8.9.4 PET Image Module**

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**Table C.8-63 - PET IMAGE MODULE ATTRIBUTES**

| Attribute Name   | Tag                | Type   | Attribute Description  |
|--|--------------------|--|--|
| ...  | ...                | ...  | ...  |
| <b>Slice Progression Direction</b>   | <b>(0054,0500)</b> | <b>3</b>                                     | <b>Describes the anatomical direction that slices are progressing as the slices are considered in order (as defined by the Slice Index. See section C.8.9.4.1.9 for a definition of Slice Index). Meaningful only for cardiac images.</b><br><b>When View Code Sequence (0054,0220) indicates a short axis view, then Enumerated Values are:</b><br>_____ <b>APEX_TO_BASE</b><br>_____ <b>BASE_TO_APEX</b> |
| <b>View Code Sequence</b>  | <b>(0054,0220)</b> | <b>3</b>                                     | <b>Sequence that describes the projection of the anatomic region of interest.</b><br><b>Only a single Item shall be permitted in this sequence.</b>  |
| <b>&gt; <del>Include 'Code Sequence Macro' Table 8.8-1</del></b>                       |                    | <b><del>Baseline Context ID is 26.</del></b> |  |
| <b>&gt; <del>View Modifier Code Sequence</del></b>                                     | <b>(0054,0222)</b> | <b>2C</b>                                    | <b>View Modifier.</b><br><b>Required if needed to fully specify the View.</b><br><b>Zero or one Item shall be included in this sequence.</b>   |
| <b>&gt;&gt; <del>Include 'Code Sequence Macro' Table 8.8-1</del></b>                   |                    | <b><del>Baseline Context ID is 23.</del></b> |  |
| <b><i>Include Table 10-25 Optional View and Slice Progression Direction Macro.</i></b> |                    |  |  |

*For information, here is the use of View Code Sequence in the DX Modules, not because it is relevant to cardiac views, but because it illustrates the pattern of use of the modifier:*

**C.8.11.5 DX Positioning Module**

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**Table C.8-72  
DX POSITIONING MODULE ATTRIBUTES**

| Attribute Name                               | Tag         | Type                     | Attribute Description  |
|--|-------------|--------------------------|--|
| ...  | ...         | ...                      | ...  |
| View Position                                | (0018,5101) | 3                        | Radiographic view of the image relative to the imaging subject's orientation.<br>Shall be consistent with View Code Sequence (0054,0220). See C.8.11.5.1.1 for further explanation.  |
| View Code Sequence                           | (0054,0220) | 3                        | Sequence that describes the projection of the anatomic region of interest on the image receptor.<br><br>Note: It is strongly recommended that this Attribute be present, in order to ensure that images may be positioned correctly relative to one another for display.<br><br>Shall be consistent with View Position (0018,5101). See C.8.11.5.1.1 for further explanation.<br>Only a single Item shall be permitted in this Sequence. |
| >Include 'Code Sequence Macro' Table 8.8-1.  |             | Baseline Context ID 4010 |  |
| >View Modifier Code Sequence                 | (0054,0222) | 3                        | View modifier.<br>Zero or more Items may be included in this Sequence.   |
| >>Include 'Code Sequence Macro' Table 8.8-1. |             | Baseline Context ID 4011 |  |
| ...  | ...         | ...                      | ...  |

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**C.8.11.5.1.1 View Code Sequence**

View Code Sequence (0054,0220) replaces the function of View Position (0018,5101), and describes the radiographic view of the image relative to the real-world patient orientation as described in PS 3.17 annex on Explanation of Patient Orientation.

*For information, here is the use of View Code Sequence in the Mammography Modules, not because it is relevant to cardiac views, but because it illustrates the pattern of use of the modifier:*

**C.8.11.7 Mammography Image Module**

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**Table C.8-74  
MAMMOGRAPHY IMAGE MODULE ATTRIBUTES**

| Attribute Name | Tag | Type | Attribute Description |
|----------------|-----|------|-----------------------|
| ...            | ... | ...  | ...                   |

|  |             |  |   |
|--|-------------|--|---|
| View Code Sequence                           | (0054,0220) | 1  | Sequence that describes the projection of the anatomic region of interest on the image receptor.<br>Only a single Item shall be permitted in this Sequence. |
| >Include 'Code Sequence Macro' Table 8.8-1.  |             | Enumerated Value for Context ID is 4014. |   |
| >View Modifier Code Sequence                 | (0054,0222) | 2  | View modifier.<br>Zero or more Items may be included in this Sequence.  |
| >>Include 'Code Sequence Macro' Table 8.8-1. |             | Enumerated Value for Context ID is 4015. |   |

*In PS 3.16, add a Basic Cardiac Views Context Group:*

**CID 27 Basic Cardiac Views**

**Context ID 27  
Basic Cardiac Views**

**Type: Extensible Version: 20120822**

| <b>Coding Scheme Designator (0008,0102)</b> | <b>Code Value (0008,0100)</b> | <b>Code Meaning (0008,0104)</b> |
|---|-------------------------------|---------------------------------|
| SRT   | G-A186                        | Short Axis                      |
| SRT   | G-A18A                        | Vertical Long Axis              |
| SRT   | G-A18B                        | Horizontal Long Axis            |

*In PS 3.16, factor out Basic Cardiac Views from the Nuclear Medicine Projections Context Group:*

**CID 26 Nuclear Medicine Projections**

**Context ID 26**

**Nuclear Medicine Projections**

**Type: Extensible Version: 20040322**

| <b>Coding Scheme Designator (0008,0102)</b> | <b>Code Value (0008,0100)</b> | <b>Code Meaning (0008,0104)</b> |
|---|-------------------------------|---------------------------------|
| SRT   | G-A138                        | Coronal                         |
| SRT   | G-A145                        | Sagittal                        |
| SRT   | G-A147                        | Axial                           |
| SRT   | G-5206                        | Right anterior oblique          |
| SRT   | G-5207                        | Left anterior oblique           |
| SRT   | G-5208                        | Right posterior oblique         |
| SRT   | G-5209                        | Left posterior oblique          |
| SRT   | G-5210                        | Oblique axial                   |
| SRT   | G-5212                        | Sagittal-oblique axial          |
| SRT   | G-5220                        | Medial-lateral                  |
| SRT   | G-5221                        | Lateral-medial                  |

|  |               |                             |
|--|---------------|-----------------------------|
| SRT  | G-5222        | Right lateral projection    |
| SRT  | G-5223        | Left lateral projection     |
| SRT  | G-5224        | Medio-lateral oblique       |
| SRT  | G-5225        | Latero-medial oblique       |
| SRT  | G-A117        | Transverse                  |
| SRT  | G-A104        | Lateral                     |
| <b>SRT</b>                                       | <b>G-A186</b> | <b>Short Axis</b>           |
| <b>SRT</b>                                       | <b>G-A18A</b> | <b>Vertical Long Axis</b>   |
| <b>SRT</b>                                       | <b>G-A18B</b> | <b>Horizontal Long Axis</b> |
| <b><i>Include CID 27 Basic Cardiac Views</i></b> |               |                             |
| SRT  | G-5215        | Anterior projection         |
| SRT  | G-5216        | Posterior projection        |

*In PS 3.16, for use in Ultrasound, more granular views that define not only the axis of view, but the approach are defined; further, they do not separate them into horizontal or vertical long axes:*

**CID 12226 Echocardiography Image View**

**Context ID 12226**

**Echocardiography Image View**

**Type: Extensible Version: 20100317**

| <b>Coding Scheme Designator (0008,0102)</b> | <b>Code Value (0008,0100)</b> | <b>Code Meaning (0008,0104)</b>                          |
|---|-------------------------------|--|
| SRT   | G-A19B                        | Apical two chamber                                       |
| SRT   | G-A19C                        | Apical four chamber                                      |
| SRT   | G-0395                        | Apical long axis   |
| SRT   | G-0396                        | Parasternal long axis                                    |
| SRT   | G-0577                        | Parasternal long axis view of the RV inflow tract        |
| SRT   | G-0578                        | Parasternal long axis view of the RV outflow tract       |
| SRT   | G-0397                        | Parasternal short axis                                   |
| SRT   | G-0398                        | Parasternal short axis at the aortic valve level         |
| SRT   | G-0399                        | Parasternal short axis at the level of the mitral chords |
| SRT   | G-039A                        | Parasternal short axis at the Mitral Valve level         |
| SRT   | G-039B                        | Parasternal short axis at the Papillary Muscle level     |
| SRT   | G-039C                        | Right Ventricular Inflow Tract View                      |
| SRT   | G-039D                        | Right Ventricular Outflow Tract View                     |
| SRT   | G-039E                        | Subcostal long axis                                      |
| SRT   | G-039F                        | Subcostal short axis                                     |
| SRT   | G-03A0                        | Suprasternal long axis                                   |

| <b>Coding Scheme Designator (0008,0102)</b> | <b>Code Value (0008,0100)</b> | <b>Code Meaning (0008,0104)</b>                       |
|---|-------------------------------|---|
| SRT   | G-03A1                        | Suprasternal short axis                               |
| SRT   | R-40B0E                       | Transesophageal short axis view                       |
| SRT   | R-40AFF                       | Subcostal view of cardiac outlets directed anteriorly |
| SRT   | G-0579                        | Subcostal short axis view at papillary muscle level   |
| SRT   | G-057B                        | Subcostal short axis view at mitral valve level       |
| SRT   | G-057E                        | Subcostal short axis view at aortic valve level       |
| SRT   | G-057C                        | Subcostal short axis view at venous inflow level      |
| SRT   | R-40B0A                       | Subcostal oblique coronal view                        |
| SRT   | R-40B00                       | Suprasternal coronal view                             |
| SRT   | R-40B01                       | Suprasternal sagittal view                            |
| SRT   | G-057D                        | Suprasternal long axis view of aortic arch            |

Add UID for CID 27 to PS 3.6:

|                              |           |                            |
|------------------------------|-----------|----------------------------|
| <b>1.2.840.10008.6.1.957</b> | <b>27</b> | <b>Basic Cardiac Views</b> |
|------------------------------|-----------|----------------------------|