# DICOM Change Proposal

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| STATUS | Assigned |
| Date of Last Update | 2026-01-08 |
| Person Assigned | steven.nichols@gehealthcare.com |
| Submitter Name | IHE RadTech |
| Submission Date | 2025-11-03 |

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|---|
| Change Number CP-2595 |
| Log Summary: Extend KOS to support more metadata for manifest use case |
| Name of Standard<br>PS3.3, PS3.16 |
| Rationale for Change:<br>The KOS has been extensively utilized in the context of cross-enterprise document sharing, including for images, particularly in IHE XDS-I.<br>There is a desire to allow selection of a subset of images described in a KOS rather than retrieving an entire set of images (such as a Study), based on metadata included in the manifest, or performing a query by some other mechanism.<br>Though TID 2010 required for the KOS IOD and Storage SOP Class is defined as non-extensible, it is thought to be preferrable to allow its extension in a non-breaking manner, rather than to sanction the use of extension of DICOM data set attributes in a manner that would not be in keeping with the design of the KOS IOD.<br>Inclusion of the Image Library sub-template, which is already defined for the purpose of describing referenced images in more detail, allows for sufficient but constrained extensibility in keeping with the spirit of the KOS design, albeit requiring (a) parsing of the Content Tree and (b) replication of the image references (in order to preserve compatibility with the existing flat list of image references in the TID 2010).<br>It is proposed to add TID 1600 “Image Library” as an additional row to TID 2010, and requiring its presence if a specified (new) Document Title code is used.<br>The Image Library sub-templates are extended to include some of the metadata proposed for the extended manifest based on experience of what is useful for selecting Series from Studies for viewing, and without harming their current use in other templates that already make use of them.<br>The Image Library sub-templates are extensible, and their contents are mostly optional, so for specific-use cases, additional constraints may be specified in an externally defined profile (such as in IHE MADO), which might require the presence of specific Content Items, and/or the use of specific value sets.<br>IHE Radiology plan to review the mapping between this KOS based Manifest and the FHIR Manifest format at its February 2026 meeting. Any gaps identified will be feed into the DICOM Voting Packet for the March 2026 meeting. |
| Change Wording: |

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| ***Modify PS3.3 as indicated to expand the relationship constraints to support the Image Library***<br>*(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):* |

## A.35.4 Key Object Selection Document IOD

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### A.35.4.3.1 Key Object Selection Document IOD Content Constraints

#### A.35.4.3.1.1 Value Type

Value Type (0040,A040) in Content Sequence (0040,A730) of the SR Document Content Module is constrained to the following Enumerated Values (see Table C.17.3-7 for Value Type definitions):

Enumerated Values:

**TEXT**
**CODE**
**UIDREF**
**PNAME**
**COMPOSITE**
**IMAGE**
**WAVEFORM**
**CONTAINER**
**DATE**
**TIME**
**DATETIME**
**NUM**

#### A.35.4.3.1.2 Relationship Constraints

Relationships between Content Items in the content of this IOD shall be conveyed in the by-value mode. See Table C.17.3-8 for Relationship Type definitions.

Note

Relationships by-reference are forbidden. Therefore, Referenced Content Item Identifier (0040,DB73) is not present in any of the Content Items within the SR Document Content Module.

Table A.35.4-2 specifies the relationship constraints of this IOD.

**Table A.35.4-2. Relationship Content Constraints for Key Object Selection Document IOD**

| Source Value Type | Relationship Type (Enumerated Values) | Target Value Type |
|---|---|---|
| CONTAINER | CONTAINS | TEXT, IMAGE, WAVEFORM, COMPOSITE, **CONTAINER** |
| CONTAINER | HAS OBS CONTEXT | TEXT, CODE, UIDREF, PNAME, CONTAINER |
| CONTAINER | HAS CONCEPT MOD | CODE |
| **CONTAINER** | **HAS ACQ CONTEXT** | |
| **IMAGE** | **HAS ACQ CONTEXT** | **CODE, DATE, TIME, DATETIME, UIDREF, NUM, TEXT** |
| **COMPOSITE** | **HAS ACQ CONTEXT** | **CODE, DATE, TIME, DATETIME, UIDREF, NUM, TEXT** |
| **WAVEFORM** | **HAS ACQ CONTEXT** | **CODE, DATE, TIME, DATETIME, UIDREF, NUM, TEXT** |

Note

The SOP Classes to which an IMAGE, WAVEFORM or COMPOSITE Value Type may refer are documented in the Conformance Statement for an application (see PS3.2 and PS3.4).

#### A.35.4.3.1.3 Template Constraints

The document shall be constructed from TID 2010 “Key Object Selection” invoked at the root node.

***Modify PS3.16 TID 2010 as indicated, to include Image Library***

*(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):*

## TID 2010 Key Object Selection

The Key Object Selection Template is intended for flagging one or more significant images, waveforms, or other composite SOP Instances. Key Object Selection contains:

- coded document title stating the reason for significance of the referenced objects in the Key Object Selection,

- optional free form text comment in an explicitly identified language, and
- optional identification of the observer (device or person) that created the Key Object Selection.

Note

1. For instance, when this Template is used to identify images rejected for quality reasons, the device or person performing the quality assessment is identified in observation context items (invoked through TID 1002 “Observer Context”). The reason for rejection can be included both as a code used as a concept modifier for the document title, and as text description.
2. The order of object references may be significant, e.g., when the title concept is "For Conference".
3. Instances referenced in a Key Object Selection Document may be securely referenced by Digital Signature or MAC mechanisms within the SR Document General Module (see PS3.3).

- **optional Image Library to further describe the reference instances**.

The Template can only be instantiated at the root node and cannot be included in other Templates. The Template is not extensible; that is, no other Content Items may be added to this Template, or the Templates that are included, recursively.

**Type: Non-Extensible**
**Order: Non-Significant**
**Root: Yes**

**Table TID 2010. Key Object Selection**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | | CONTAINER | DCID 7010 “Key Object Selection Document Title” | 1 | M | | Root node |
| 2 | > | HAS CONCEPT MOD | CODE | EV (113011, DCM, "Document Title Modifier") | 1-n | U | | |
| 3 | > | HAS CONCEPT MOD | CODE | EV (113011, DCM, "Document Title Modifier") | 1 | UC | IF Row 1 Concept Name = (113001, DCM, "Rejected for Quality Reasons") or (113010, DCM, "Quality Issue") | DCID 7011 “Rejected for Quality Reason” |
| 4 | > | HAS CONCEPT MOD | CODE | EV (113011, DCM, "Document Title Modifier") | 1 | MC | IF Row 1 Concept Name = (113013, DCM, "Best In Set") | DCID 7012 “Best in Set” |
| 5 | > | HAS CONCEPT MOD | INCLUDE | DTID 1204 “Language of Content Item and Descendants” | 1 | U | | |
| 6 | > | HAS OBS CONTEXT | INCLUDE | DTID 1002 “Observer Context” | 1-n | U | | |
| 7 | > | CONTAINS | TEXT | EV (113012, DCM, "Key Object Description") | 1 | U | | |
| 8 | > | CONTAINS | IMAGE | | 1-n | MC | At least one of Rows 8, 9 and 10 shall be present | |
| 9 | > | CONTAINS | WAVEFORM | | 1-n | MC | At least one of Rows 8, 9 and 10 shall be present | |
| 10 | > | CONTAINS | COMPOSITE | | 1-n | MC | At least one of Rows 8, 9 and 10 shall be present | |
| **11** | **>** | **CONTAINS** | **INCLUDE** | **DTID 1600 “Image Library”** | **1** | **MC** | **IF Row 1 Concept Name = (ddd001, DCM, "Manifest with Description")** | |

**Content Item Descriptions**

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|---|---|
| Rows 8, 9, 10 | Purpose of reference shall not be present. |

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| **Row 11** | **Though TID 2010 itself is non-extensible, the included TID 1600 is extensible.** |

***Modify PS3.16 TID 1600 and sub-templates as indicated, to add metadata needed for extended manifest***

*(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):*

## TID 1600 Image Library

The Image Library contains references to images and selected attributes describing them that facilitate analysis without having to retrieve the entire set of referenced images.

**When TID 1600 is used to provide additional descriptive attributes in an imaging study manifest, the TID 1600 includes study level attributes for the same imaging study as the one referenced in the Key Object Document Module.**

Kommentiert [SN1]: IHE constraint

**Type: Extensible**
**Order: Non-Significant**
**Root: No**

**Table TID 1600. Image Library**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | | CONTAINER | EV (111028, DCM, "Image Library") | 1 | M | | |
| **1b** | **>** | **HAS ACQ CONTEXT** | **CODE** | **EV (121139, DCM, "Modality")** | **1-n** | **U** | | **DCID 29 "Acquisition Modality"** |
| **1c** | **>** | **HAS ACQ CONTEXT** | **UIDREF** | **EV (110181, DCM, "SOP Class UID")** | **1-n** | **U** | | |
| **1d** | **>** | **HAS ACQ CONTEXT** | **CODE** | **EV (123014, DCM, "Target Region")** | **1-n** | **U** | | **DCID 4031 "Common Anatomic Region"** |
| 2 | > | CONTAINS | CONTAINER | EV (126200, DCM, "Image Library Group") | 1-n | U | | |
| 3 | >> | HAS ACQ CONTEXT | INCLUDE | DTID 1602 "Image Library Entry Descriptors" | 1 | U | | |
| 4 | >> | CONTAINS | INCLUDE | DTID 1601 "Image Library Entry" | 1-n | U | | |

Kommentiert [SN2]: Also in 1602
What if there are multiple Target Regions in 1602? e.g., Trauma Series, FAST

| | |
|---|---|
| **Row 1b** | **The Modality may be specified at the Image Library level to factor out common information, such as all of the Modalities within a Study (similar to the PS3.4 Modalities in Study (0008,0061) additional Query/Retrieve Attribute).**<br>**Only the acquisition modality from DCID 29 "Acquisition Modality" that are present at the Series le of the imaging study shall be listed. Non-acquisition or derived modalities shall not be included, as they are not relevant for clinical retrieval.** |
| **Row 1c** | **The SOP Class UIDs may be specified at the entire library level to factor out common information, such as all of the SOP Classes within a Study (similar to the PS3.4 SOP Classes in Study (0008,0062) additional Query/Retrieve Attribute).** |
| **Row 1d** | **The Target Region may be encoded using either the high-level anatomic regions and systems valu (CID 403x "High-Level Anatomic Regions and Systems") to support coarse filtering of imaging studies across multiple imaging modalities and clinical domains, or the more detailed value set (CID 4031 "Common Anatomic Region").** |
| Row 3 | These Image Library Entry Descriptors apply to all Image Library Entries in this Image Library Group. **Though any grouping may be defined, all of the images within a single Series might be considered as a group.** |

Kommentiert [SN3]: IHE constraint

Kommentiert [SN4]: IHE constraint on 4031

## TID 1601 Image Library Entry

Each instance of the Image Library Entry Template contains the Image SOP Class and Instance UIDs, and selected attributes for an image that facilitate analysis without having to retrieve the entire set of referenced images.

**Type: Extensible**
**Order: Non-Significant**

**Root: No**

**Table TID 1601. Image Library Entry**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | | IMAGE | | 1 | MC | XOR Rows 1a, 1b | |
| 1a | | | COMPOSITE | | 1 | MC | XOR Rows 1, 1b | |
| 1b | | | WAVEFORM | | 1 | MC | XOR Rows 1, 1a | |
| 2 | > | HAS ACQ CONTEXT | INCLUDE | DTID 1602 "Image Library Entry Descriptors" | 1 | U | | |

| | |
|---|---|
| Row 2 | These Image Library Entry Descriptors apply to the IMAGE in Row 1 and override descriptors in Row 3 of Section TID 1600 in case of conflict. |

## TID 1602 Image Library Entry Descriptors

This Template contains selected attributes for an image or group of images. The descriptive information may be copied from images or derived.

**When TID 1602 is used to provide additional descriptive attributes in an imaging study manifest at the series level (Image Library Group), it includes series level attributes for the same series as those referenced in the Key Object Document Module.**

**When TID 1602 is used to provide additional descriptive attributes in an imaging study manifest at the instance level, it includes instance level attributes for the same instances as those referenced in the Key Object Document Module.**

**Type: Extensible**

**Order: Non-Significant**

**Root: No**

Kommentiert [SN5]: IHE constraint

**Table TID 1602. Image Library Entry Descriptors**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | HAS ACQ CONTEXT | CODE | EV (121139, DCM, "Modality") | 1 | U | | ~~DCID 29 "Acquisition Modality"~~ DCID 33 "Moda |
| 2 | | HAS ACQ CONTEXT | CODE | EV (123014, DCM, "Target Region") | 1 | U | | DCID 4031 "Cor Anatomic Regio |
| 2b | | HAS ACQ CONTEXT | TEXT | EV (123014, DCM, "Target Region") | 1 | U | | |
| 3 | | HAS ACQ CONTEXT | CODE | EV (111027, DCM, "Image Laterality") | 1 | U | | DCID 244 "Laterality" |
| 4 | | HAS ACQ CONTEXT | DATE | EV (111060, DCM, "Study Date") | 1 | U | | |
| 5 | | HAS ACQ CONTEXT | TIME | EV (111061, DCM, "Study Time") | 1 | U | | |
| 5a | | HAS ACQ CONTEXT | DATE | EV (ddd003, DCM, "Series Date") | 1 | U | | |
| 5b | | HAS ACQ CONTEXT | TIME | EV (ddd004, DCM, "Series Time") | 1 | U | | |
| 6 | | HAS ACQ CONTEXT | DATE | EV (111018, DCM, "Content Date") | 1 | U | | |
| 7 | | HAS ACQ CONTEXT | TIME | EV (111019, DCM, "Content Time") | 1 | U | | |
| 8 | | HAS ACQ CONTEXT | DATE | EV (126201, DCM, "Acquisition Date") | 1 | U | | |
| 9 | | HAS ACQ CONTEXT | TIME | EV (126202, DCM, "Acquisition Time") | 1 | U | | |

Kommentiert [SN6]: Adds "CID 32 Non-Acquisition Modality"
Contradicts 1b in 1600?
*"Non-acquisition or derived modalities shall not be included"*

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 10 | | HAS ACQ CONTEXT | UIDREF | EV (112227, DCM, "Frame of Reference UID") | 1 | U | | |
| 11 | | HAS ACQ CONTEXT | NUM | EV (110910, DCM, "Pixel Data Rows") | 1 | U | | UNITS = EV ({pixels}, UCUM, "pixels") |
| 12 | | HAS ACQ CONTEXT | NUM | EV (110911, DCM, "Pixel Data Columns") | 1 | U | | UNITS = EV ({pixels}, UCUM, "pixels") |
| **12a** | | **HAS ACQ CONTEXT** | **TEXT** | **EV (ddd002, DCM, "Series Description")** | **1** | **U** | | |
| **12b** | | **HAS ACQ CONTEXT** | **CODE** | **EV (ddd002, DCM, "Series Description")** | **1** | **U** | | |
| **12c** | | **HAS ACQ CONTEXT** | **TEXT** | **EV (ddd005, DCM, "Series Number")** | **1** | **U** | | |
| **12d** | | **HAS ACQ CONTEXT** | **NUM** | **EV (121140, DCM, "Number of Frames")** | **1** | **U** | | **UNITS = EV ({frames}, UCUM, "frames")** |
| **12e** | | **HAS ACQ CONTEXT** | **NUM** | **EV (ddd007, DCM, "Number of Series Related Instances")** | **1** | **U** | | **UNITS = EV ({instances}, UCUM, "instances")** |
| **12f** | | **HAS ACQ CONTEXT** | **UIDREF** | **EV (ddd006, DCM, "Series Instance UID")** | **1** | **U** | | |
| **12g** | | **HAS ACQ CONTEXT** | **TEXT** | **EV (ddd008, DCM, "Instance Number")** | **1** | **U** | | |
| 13 | | HAS ACQ CONTEXT | INCLUDE | DTID 1603 "Image Library Entry Descriptors for Projection Radiography" | 1 | MC | IFF Row 1 is present with a value of "CR", "DX", "IO", "MG", "PX", "RF", "RG" or "XA" | |
| 14 | | HAS ACQ CONTEXT | INCLUDE | DTID 1604 "Image Library Entry Descriptors for Cross-Sectional Modalities" | 1 | MC | IFF Row 1 is present with a value of "CT", "MR" or "PT" | |
| 15 | | HAS ACQ CONTEXT | INCLUDE | DTID 1605 "Image Library Entry Descriptors for CT" | 1 | MC | IFF Row 1 is present with a value of "CT" | |
| 16 | | HAS ACQ CONTEXT | INCLUDE | DTID 1606 "Image Library Entry Descriptors for MR" | 1 | MC | IFF Row 1 is present with a value of "MR" | |
| 17 | | HAS ACQ CONTEXT | INCLUDE | DTID 1607 "Image Library Entry Descriptors for PET" | 1 | MC | IFF Row 1 is present with a value of "PT" | |
| **18** | | **CONTAINS** | **INCLUDE** | **DTID 16xx "Image Library Entry Descriptors for Key Object Selection"** | **1-n** | **U** | | |

**Kommentiert [SN7]:** UC - To distinguish Series vs Instance Level?

**Content Item Descriptions**

| | |
|---|---|
| Row **2, 2b** | **The Target Region may be a text value (e.g., the Value of Body Part Examined (0018,0015), and/or a code value (e.g., t**~~T~~he value of Anatomic Region Sequence (0008,2218) in the Image IOD, or a code derived from Body Part Examined (0018,0015) using the mapping described in Annex L**)**. |
| **Row 12b, 12c** | **The Series Description may be a text value (e.g., the Value of Series Description (0008,103E), and/or a code value (e.g., the Value of Series Description Code Sequence (0008,103F)).** |

## TID 1603 Image Library Entry Descriptors for Projection Radiography

This Template contains selected attributes for a projection radiography image or group of such images. The descriptive information may be copied from images or derived.

**Type:** **Extensible**

**Order:** **Non-Significant**

**Root: No**

**Table TID 1603. Image Library Entry Descriptors for Projection Radiography**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | HAS ACQ CONTEXT | CODE | EV (111031, DCM, "Image View") | 1 | U | | |
| 2 | > | HAS CONCEPT MOD | CODE | EV (111032, DCM, "Image View Modifier") | 1-n | U | | |
| 3 | | HAS ACQ CONTEXT | TEXT | EV (111044, DCM, "Patient Orientation Row") | 1 | U | | |
| 4 | | HAS ACQ CONTEXT | TEXT | EV (111043, DCM, "Patient Orientation Column") | 1 | U | | |
| 5 | | HAS ACQ CONTEXT | NUM | EV (111026, DCM, "Horizontal Pixel Spacing") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 6 | | HAS ACQ CONTEXT | NUM | EV (111066, DCM, "Vertical Pixel Spacing") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 7 | | HAS ACQ CONTEXT | NUM | EV (112011, DCM, "Positioner Primary Angle") | 1 | U | | UNITS = EV (deg, UCUM, "deg") |
| 8 | | HAS ACQ CONTEXT | NUM | EV (112012, DCM, "Positioner Secondary Angle") | 1 | U | | UNITS = EV (deg, UCUM, "deg") |

**Content Item Descriptions**

| | |
|---|---|
| Rows 3, 4 | First (row) and second (column) components of Patient Orientation (0020,0020) in the Image IOD. See Section C.7.6.1.1.1 “Patient Orientation” in PS3.3. |
| Row 5 | The second component of Imager Pixel Spacing (0018,1164) in the Image IOD. See Section C.8.11.4 “DX Detector Module” in PS3.3. |
| Row 6 | The first component of Imager Pixel Spacing (0018,1164) in the Image IOD. See Section C.8.11.4 “DX Detector Module” in PS3.3. |

## TID 1604 Image Library Entry Descriptors for Cross-Sectional Modalities

This Template contains selected attributes for a cross-sectional image or group of such images. The descriptive information may be copied from images or derived.

**Type: Extensible**
**Order: Non-Significant**
**Root: No**

**Table TID 1604. Image Library Entry Descriptors for Cross-Sectional Modalities**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | HAS ACQ CONTEXT | NUM | EV (111026, DCM, "Horizontal Pixel Spacing") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 2 | | HAS ACQ CONTEXT | NUM | EV (111066, DCM, "Vertical Pixel Spacing") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 3 | | HAS ACQ CONTEXT | NUM | EV (112226, DCM, "Spacing between slices") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 4 | | HAS ACQ CONTEXT | NUM | EV (112225, DCM, "Slice Thickness") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 5 | | HAS ACQ CONTEXT | NUM | EV (110901, DCM, "Image Position (Patient) X") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 6 | | HAS ACQ CONTEXT | NUM | EV (110902, DCM, "Image Position (Patient) Y") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 7 | | HAS ACQ CONTEXT | NUM | EV (110903, DCM, "Image Position (Patient) Z") | 1 | U | | UNITS = EV (mm, UCUM, "millimeter") |
| 8 | | HAS ACQ CONTEXT | NUM | EV (110904, DCM, "Image Orientation (Patient) Row X") | 1 | U | | UNITS = EV ({-1:1}, UCUM, "{-1:1}") |
| 9 | | HAS ACQ CONTEXT | NUM | EV (110905, DCM, "Image Orientation (Patient) Row Y") | 1 | U | | UNITS = EV ({-1:1}, UCUM, "{-1:1}") |

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 10 | | HAS ACQ CONTEXT | NUM | EV (110906, DCM, "Image Orientation (Patient) Row Z") | 1 | U | | UNITS = EV ({-1:1}, UCUM, "{-1:1}") |
| 11 | | HAS ACQ CONTEXT | NUM | EV (110907, DCM, "Image Orientation (Patient) Column X") | 1 | U | | UNITS = EV ({-1:1}, UCUM, "{-1:1}") |
| 12 | | HAS ACQ CONTEXT | NUM | EV (110908, DCM, "Image Orientation (Patient) Column Y") | 1 | U | | UNITS = EV ({-1:1}, UCUM, "{-1:1}") |
| 13 | | HAS ACQ CONTEXT | NUM | EV (110909, DCM, "Image Orientation (Patient) Column Z") | 1 | U | | UNITS = EV ({-1:1}, UCUM, "{-1:1}") |

**Content Item Descriptions**

| | |
|---|---|
| Row 1 | The second component of Pixel Spacing (0028,0030) in the Image IOD. See Section 10.7.1.1 “Pixel Spacing” in PS3.3 and Section C.7.6.2 “Image Plane Module” in PS3.3. |
| Row 2 | The first component of Pixel Spacing (0028,0030) in the Image IOD. See Section 10.7.1.1 “Pixel Spacing” in PS3.3 and Section C.7.6.2 “Image Plane Module” in PS3.3. |

## TID 1605 Image Library Entry Descriptors for CT

This Template contains selected attributes for a CT image or group of such images. The descriptive information may be copied from images or derived.

**Type:** **Extensible**
**Order:** **Non-Significant**
**Root:** **No**

**Table TID 1605. Image Library Entry Descriptors for CT**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | HAS ACQ CONTEXT | CODE | EV (113820, DCM, "CT Acquisition Type") | 1 | U | | DCID 10013 “CT Acquisition Type” |
| 2 | | HAS ACQ CONTEXT | CODE | EV (113961, DCM, "Reconstruction Algorithm") | 1 | U | | DCID 10033 “CT Reconstruction Algorithm” |

**Content Item Descriptions**

| | |
|---|---|
| Row 1 | A code derived from the Value of Acquisition Type (0018,9302) in the Image IOD. See Section C.8.15.3.2 “CT Acquisition Type Macro” in PS3.3. |
| Row 2 | A code derived from the Value of Reconstruction Algorithm (0018,9315) in the Image IOD. See Section C.8.15.3.7 “CT Reconstruction Macro” in PS3.3. |

## TID 1606 Image Library Entry Descriptors for MR

This Template contains selected attributes for a MR image or group of such images. The descriptive information may be copied from images or derived. Specialized coded Content Items allow more precise description of imaging sequences used for interpretation of multiparametric prostate MRI.

**Type:** **Extensible**
**Order:** **Non-Significant**
**Root:** **No**

**Table TID 1606. Image Library Entry Descriptors for MR**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | HAS ACQ CONTEXT | TEXT | EV (128230, DCM, "Pulse Sequence Name") | 1 | U | | |
| 2 | | HAS ACQ CONTEXT | NUM | EV (130542, DCM, "Magnetic field strength") | 1 | U | | UNITS = (T, UCUM, "Tesla") |
| 3 | | HAS ACQ CONTEXT | NUM | EV (RID10813, RADLEX, "MR coil") | 1-n | U | | DCID 6349 “MR Coil Type” |
| 4 | | HAS ACQ CONTEXT | NUM | EV (110852, DCM, "MR signal intensity") | 1 | U | | BCID 6311 “MR Signal Intensity” |

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 5 | | HAS ACQ CONTEXT | NUM | EV (130546, DCM, "Cross-sectional scan plane orientation") | 1 | U | | BCID 6312 “Cross-sectional Scan Plane Orientation” |
| 6 | | HAS ACQ CONTEXT | NUM | EV (113240, DCM, "Source image diffusion b-value") | 1-n | U | | UNITS = (s/mm2, UCUM, "s/mm2") |
| 7 | | HAS ACQ CONTEXT | INCLUDE | DTID 1608 “Image Library Entry Descriptors for Prostate Multiparametric MR” | 1 | U | | |

**Content Item Descriptions**

| | |
|---|---|
| Row 1 | The value of Pulse Sequence Name (0018,9005) or Sequence Name (0018,0024) in the Image IOD. See Section C.8.13.4 “MR Pulse Sequence Module” in PS3.3. |
| Row 6 | Multiple values may apply when entry descriptor corresponds to a parametric map such as Apparent Diffusion Coefficient (ADC) map, which utilizes multiple b-values from a Diffusion-Weighted acquisition. |

## TID 1607 Image Library Entry Descriptors for PET

This Template contains selected attributes for a PET image or group of such images. The descriptive information may be copied from images or derived.

Note

The content of this Template is similar to that in TID 15101 NM/PET Protocol Context, but is in the form of an SR Template rather than a Protocol Context Template, and the Content Items are not nested as modifiers. There is also some similarity to TID 3307 NM/PET Perfusion Measurement Group.

**Type: Extensible**
**Order: Non-Significant**
**Root: No**

**Table TID 1607. Image Library Entry Descriptors for PET**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | HAS ACQ CONTEXT | CODE | EV (89457008, SCT, "Radionuclide") | 1 | U | | DCID 4020 “PET Radionuclide” |
| 2 | | HAS ACQ CONTEXT | CODE | EV (349358000, SCT, "Radiopharmaceutical agent") | 1 | U | | DCID 4021 “PET Radiopharmaceutical” |
| 3 | | HAS ACQ CONTEXT | NUM | EV (304283002, SCT, "Half-life of radiopharmaceutical") | 1 | U | | UNITS = EV (s, UCUM, "s") |
| 3b | | HAS ACQ CONTEXT | TEXT | EV (121022, DCM, "Accession Number") | 1 | U | | |
| 4 | | HAS ACQ CONTEXT | DATETIME | EV (123003, DCM, "Radiopharmaceutical Start DateTime") | 1 | U | | |
| 5 | | HAS ACQ CONTEXT | DATETIME | EV (123004, DCM, "Radiopharmaceutical Stop DateTime") | 1 | U | | |
| 6 | | HAS ACQ CONTEXT | NUM | EV (123005, DCM, "Radiopharmaceutical Volume") | 1 | U | | UNITS = DT (cm3, UCUM, "cm3") |
| 7 | | HAS ACQ CONTEXT | NUM | EV (123006, DCM, "Radionuclide Total Dose") | 1 | U | | UNITS = DT (Bq, UCUM, "Bq") |
| 8 | | HAS ACQ CONTEXT | NUM | EV (123007, DCM, "Radiopharmaceutical Specific Activity") | 1 | U | | UNITS = DT (Bq/mol, UCUM, "Bq/mol") |
| 9 | | HAS ACQ CONTEXT | CODE | EV (410675002, SCT, "Route of Administration") | 1 | U | | BCID 11 “Administration Route” |

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 10 | | HAS ACQ CONTEXT | NUM | EV (123009, DCM, "Radionuclide Syringe Counts") | 1 | U | | UNITS = DT ({counts}/s, UCUM, "counts/s") |
| 11 | | HAS ACQ CONTEXT | NUM | EV (123010, DCM, "Radionuclide Residual Syringe Counts") | 1 | U | | UNITS = DT ({counts}/s, UCUM, "counts/s") |
| 12 | | HAS ACQ CONTEXT | NUM | EV (126203, DCM, "PET Radionuclide Incubation Time") | 1 | U | | UNITS = EV (min, UCUM, "min") |
| 13 | | HAS ACQ CONTEXT | NUM | EV (14749-6, LN, "Glucose") | 1 | U | | UNITS = EV (mmol/l, UCUM, "mmol/l") |
| 14 | | HAS ACQ CONTEXT | DATE | EV (127857, DCM, "Glucose Measurement Date") | 1 | MC | IF Row 13 Glucose is present and does not contain Observation DateTime (0040,A032). | |
| 15 | | HAS ACQ CONTEXT | TIME | EV (127858, DCM, "Glucose Measurement Time") | 1 | MC | IF Row 13 Glucose is present and does not contain Observation DateTime (0040,A032). | |

**Content Item Descriptions**

| | | |
|---|---|---|
| Row 3 | Half-life of radiopharmaceutical | The units for half life are chosen to be seconds, to match the units used for Radionuclide Half Life (0018,1075). See Section C.8.9.2 “PET Isotope Module” in PS3.3. |
| Row 14 | Glucose Measurement Date | In an earlier edition of the Standard, an incorrect DCM code was used for this concept, which was already assigned as (109081, DCM, "Prospective gating"). |
| Row 15 | Glucose Measurement Time | In an earlier edition of the Standard, an incorrect DCM code was used for this concept, which was already assigned as (109082, DCM, "Retrospective gating"). |

## TID 1608 Image Library Entry Descriptors for Prostate Multiparametric MR

This Template includes attributes for image library entries that define the type of the sequence, as needed for PI-RADS interpretation of multiparametric MRI, specify most important sequence-specific attributes, and provide a location for reporting prostate imaging and sequence-specific technical characteristics of the acquisition.

Note

A descriptor specific to prostate MRI and PI-RADS is provided to record Prostate DCE temporal resolution. This term follows the conventions used in the PI-RADS guidelines.

**Type: Extensible**
**Order: Non-Significant**
**Root: No**

### Table TID 1608. Image Library Entry Descriptors for Prostate Multiparametric MR

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | HAS ACQ CONTEXT | TEXT | EV (130544, DCM, "Endorectal coil type") | 1 | U | | |
| 2 | | HAS ACQ CONTEXT | CODE | EV (130545, DCM, "Inflatable endorectal coil fill substance") | 1 | U | | DCID 6350 “Endorectal Coil Fill Substance” |
| 3 | | HAS ACQ CONTEXT | NUM | EV (130547, DCM, "Dynamic contrast-enhanced temporal resolution") | 1-n | U | | UNITS = (s, UCUM, "second") |

***Modify PS3.16 Section A to add a new Image Library Entry template TID 16xx as indicated, to include new concepts for describing the properties of the flagging of instances with a key (KOS SOP Class)***

*(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):*

## TID 16xx Image Library Entry Descriptors for Key Object Selection

This Template includes attributes for image library entries that specify most important attributes for optimizing access to instances flagged by Key Object Selection.

**Type: Extensible**
**Order: Non-Significant**
**Root: No**

**Table TID 16xx. Image Library Entry Descriptors for Key Object Selection**

| | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
|---|---|---|---|---|---|---|---|---|
| 1 | | | CONTAINER | DTID 16xx "Image Library Entry Descriptors for Key Object Selection" | 1 | 1 | | |
| 2 | > | HAS ACQ CONTEXT | CODE | EV (121144, DCM, "Document Title") | 1 | M | | |
| 3 | > | HAS ACQ CONTEXT | TEXT | EV (113012, DCM, "Key Object Description" | 1 | MC | Required when present in the referenced KOS Instance | |
| 4 | > | HAS ACQ CONTEXT | IMAGE | | 1-n | MC | XOR Rows 5, 6 | |
| 5 | > | HAS ACQ CONTEXT | COMPOSITE | | 1-n | MC | XOR Rows 4, 6 | |
| 6 | > | HAS ACQ CONTEXT | WAVEFORM | | 1-n | MC | XOR Rows 4, 5 | |

**Content Item Descriptions**

| | |
|---|---|
| Rows 4, 5, 6 | The referenced IMAGE, COMPOSITE, or WAVEFORM Instances shall correspond to Instances flagged as significant by the referenced Key Object Selection (KOS) Instance. |

***Modify PS3.16 CID 7010 as indicated, to include new concepts***

*(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):*

## CID 7010 Key Object Selection Document Title

**Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML**
**Keyword: KeyObjectSelectionDocumentTitle**
**FHIR Keyword: dicom-cid-7010-KeyObjectSelectionDocumentTitle**
**Type: Extensible**
**Version: 20190915yyyymmdd**
**UID: 1.2.840.10008.6.1.490**

**Table CID 7010. Key Object Selection Document Title**

| Coding Scheme Designator | Code Value | Code Meaning |
|---|---|---|
| DCM | 113000 | Of Interest |
| DCM | 113001 | Rejected for Quality Reasons |
| DCM | 113002 | For Referring Provider |
| … | | |
| DCM | 113021 | For Litigation |
| DCM | 113030 | Manifest |
| DCM | 113031 | Signed Manifest |
| **DCM** | **ddd001** | **Manifest with Description** |
| DCM | 113032 | Complete Study Content |

| Coding Scheme Designator | Code Value | Code Meaning |
|---|---|---|
| … | | |

***Modify PS3.16 Annex D as indicated, to include new concepts***

*(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):*

**Table D-1. DICOM Controlled Terminology Definitions (Coding Scheme Designator "DCM" Coding Scheme Version "01")**

| Code Value | Code Meaning | Definition | Notes |
|---|---|---|---|
| 113030 | Manifest | A list of objects that have been exported out of one organizational domain into another domain. Typically, the first domain has no direct control over what the second domain will do with the objects. | |
| 113031 | Signed Manifest | A signed list of objects that have been exported out of one organizational domain into another domain, referenced securely with either Digital Signatures or MACs. Typically, the first domain has no direct control over what the second domain will do with the objects. | |
| **ddd001** | **Manifest with Description** | **A list of objects that have been exported from one organizational domain into another domain, including additional descriptive metadata that may facilitate its use to determine relevance of the listed objects.** | |
| 111018 | Content Date | The date the data creation started. | |
| 111019 | Content Time | The time the data creation started. | |
| 111060 | Study Date | Date on which the acquisition of the study information was started. | |
| 111061 | Study Time | Time at which the acquisition of the study information was started. | |
| 126201 | Acquisition Date | The date the acquisition of data started | |
| 126202 | Acquisition Time | The time the acquisition of data started | |
| **ddd003** | **Series Date** | **Date the Series started.** | |
| **ddd004** | **Series Time** | **Time the Series started.** | |
| **ddd002** | **Series Description** | **Description of the Series.** | |
| **ddd005** | **Series Number** | **A number that identifies the Series.** | |
| **ddd006** | **Series Instance UID** | **A UID that uniquely identifies the Series** | |
| **ddd008** | **Instance Number** | **A number that identifies the Instance.** | |
| 121139 | Modality | Type of device, process or method used to acquire or derive data. | |
| 121140 | Number of Frames | Number of Frames in a multi-frame image. | |

| | | | |
|---|---|---|---|
| **ddd007** | **Number of Series Related Instances** | **The number of Composite Object Instances in a Series.** | |