

DICOM Correction Proposal

| | |
|---------------------|-----------------|
| STATUS | Letter Ballot |
| Date of Last Update | 2024/03/19 |
| Person Assigned | Christof Schadt |
| Submitter Name | David Wikler |
| Submission Date | 2023/11/07 |

| | |
|---------------------------|--|
| Correction Number | CP-2377 |
| Log Summary: | Add Radiotherapy Workitem Codes to DCMR Context Groups |
| Name of Standard | PS3.6, PS3.16 |
| Rationale for Correction: | <p>A new IHE-RO Treatment Delivery Workflow Integration Profile is being developed (TDW-III) and requires the definition of a new UPS Workitem code to describe complex procedure steps, including both treatment delivery and positioning tasks, using a single workitem code (see GGG.3.2 Complex Procedure Steps).</p> <p>The use of MR for patient positioning in RT Treatment has become routine and corresponding workitem codes are required.</p> <p>New codes are added accordingly.</p> |
| Correction Wording: | |

Add to PS 3.6, Annex A

**Table A-3
CONTEXT GROUP UID VALUES**

| Context UID | Context Identifier | Context Group Name |
|-------------------------------|--------------------|---|
| <u>1.2.840.10008.6.1.CCCC</u> | <u>CCCC</u> | <u>Patient Position Acquisition – MR Techniques</u> |

In PS 3.16, B.1 Context Groups, modify Table CID 9241. Radiotherapy General Workitem Definition

CID 9241 Radiotherapy General Workitem Definition

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
Keyword: RadiotherapyGeneralWorkitemDefinition
FHIR Keyword: dicom-cid-9241-RadiotherapyGeneralWorkitemDefinition
Type: Extensible
Version: ~~20151110~~20240301
UID: 1.2.840.10008.6.1.931

Table CID 9241. Radiotherapy General Workitem Definition

| Coding Scheme Designator | Code Value | Code Meaning |
|--------------------------|------------|------------------|
| DCM | 121701 | RT Patient Setup |

| Coding Scheme Designator | Code Value | Code Meaning |
|--------------------------|-----------------------|--|
| DCM | 121722 | RT Patient Position Adjustment |
| DCM | 121723 | RT Patient Position In-treatment-session Review |
| DCM | 121724 | RT Treatment Simulation with Internal Verification |
| DCM | 121725 | RT Treatment Simulation with External Verification |
| DCM | 121726 | RT Treatment with Internal Verification |
| DCM | 121726 | RT Treatment with External Verification |
| DCM | 121728 | RT Treatment QA with Internal Verification |
| DCM | 121729 | RT Treatment QA with External Verification |
| DCM | 121730 | RT Machine QA |
| DCM | 121731 | RT Treatment QA by RT Plan Dose Check |
| DCM | 121732 | RT Treatment QA by RT Plan Difference Check |
| DCM | 121733 | RT Treatment QA by RT Ion Plan Dose Check |
| DCM | 121734 | RT Treatment QA by RT Ion Plan Difference Check |
| DCM | 121735 | RT Brachy Treatment |
| <u>DCM</u> | <u>1217nn1</u> | <u>RT Image-Guided Patient Positioning and Treatment Delivery</u> |
| DCM | 130444 | RT Treatment with Ad Hoc Planning |

In PS 3.16, B.1 Context Groups, modify Table CID 9242. Radiotherapy Acquisition Workitem Definition

CID 9242 Radiotherapy Acquisition Workitem Definition

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
 Keyword: RadiotherapyAcquisitionWorkitemDefinition
 FHIR Keyword: dicom-cid-9242-RadiotherapyAcquisitionWorkitemDefinition
 Type: Extensible
 Version: 2022122520240301
 UID: 1.2.840.10008.6.1.932

Table CID 9242. Radiotherapy Acquisition Workitem Definition

| Coding Scheme Designator | Code Value | Code Meaning |
|--|------------|--|
| <i>Include CID 9265 "Patient Position Acquisition - Projection Techniques"</i> | | |
| <i>Include CID 9266 "Patient Position Acquisition – CT Techniques"</i> | | |
| <u>Include CID CCCC "Patient Position Acquisition – MR Techniques"</u> | | |
| DCM | 121709 | RT Patient Position Acquisition, Optical |

| Coding Scheme Designator | Code Value | Code Meaning |
|--------------------------|------------|--|
| DCM | 121710 | RT Patient Position Acquisition, Ultrasound |
| DCM | 121711 | RT Patient Position Acquisition, Spatial Fiducials |

In PS 3.16, B.1 Context Groups, modify Table CID 9243. Radiotherapy Registration Workitem Definition

CID 9243 Radiotherapy Registration Workitem Definition

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
 Keyword: RadiotherapyRegistrationWorkitemDefinition
 FHIR Keyword: dicom-cid-9243-RadiotherapyRegistrationWorkitemDefinition
 Type: Extensible
 Version: 2014040620240301
 UID: 1.2.840.10008.6.1.933

Table CID 9243. Radiotherapy Registration Workitem Definition

| Coding Scheme Designator | Code Value | Code Meaning |
|--------------------------|-----------------------|--|
| DCM | 121712 | RT Patient Position Registration, single plane |
| DCM | 121713 | RT Patient Position Registration, dual plane |
| DCM | 121714 | RT Patient Position Registration, 3D CT general |
| DCM | 121715 | RT Patient Position Registration, 3D CT marker-based |
| DCM | 121716 | RT Patient Position Registration, 3D CT volume-based |
| DCM | 121717 | RT Patient Position Registration, 3D on 2D reference |
| DCM | 121718 | RT Patient Position Registration, 2D on 3D reference |
| DCM | 121719 | RT Patient Position Registration, Optical |
| DCM | 121720 | RT Patient Position Registration, Ultrasound |
| DCM | 121721 | RT Patient Position Registration, Spatial Fiducials |
| <u>DCM</u> | <u>1217nn3</u> | <u>RT Patient Position Registration, MR</u> |

In PS 3.16, B.1 Context Groups, add Table for Patient Position Acquisition – MR Techniques

CID CCCC Patient Position Acquisition – MR Techniques

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
 Keyword: PatientPositionAcquisitionMRTechniques
 FHIR Keyword: dicom-cid-92XX-PatientPositionAcquisitionMRTechniques
 Type: Extensible
 Version: YYYYMMDD
 UID: 1.2.840.10008.6.1.CCCC

Table CID 92XX. Patient Position Acquisition – MR Techniques

| Coding Scheme Designator | Code Value | Code Meaning |
|--------------------------|------------|-------------------------------------|
| DCM | 1217nn2 | RT Patient Position Acquisition, MR |

In PS 3.16, B.1 Context Groups, modify Table CID 9268. Patient Position Acquisition Devices

CID 9268 Patient Position Acquisition Devices

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
 Keyword: PatientPositionAcquisitionDevices
 FHIR Keyword: dicom-cid-9268-PatientPositionAcquisitionDevices
 Type: Extensible
 Version: 2022122520240301
 UID: 1.2.840.10008.6.1.1467

Table CID 9268. Patient Position Acquisition Devices

| Coding Scheme Designator | Code Value | Code Meaning | SNOMED-RT ID | UMLS Concept Unique ID |
|--------------------------|------------------------|---|--------------|------------------------|
| SCT | 468886001 | Digital imaging scanner, computed radiography | R-FCDDDB | C3879314 |
| SCT | 468440006 | Digital imager, radiation therapy | R-FD5EB | C3877969 |
| SCT | 466556008 | X-ray film cassette, manual | R-FCF46 | C3882079 |
| <u>SCT</u> | <u>90003000</u> | <u>Magnetic Resonance Imaging Unit</u> | | <u>C0336660</u> |

In PS 3.16, D DICOM Controlled Terminology Definitions (Normative), modify Table D-1

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

| Code Value | Code Meaning | Definition | Notes |
|------------|---|---|-------|
| ... | | | |
| 121707 | RT Patient Position Acquisition, CT kV | Acquisition of patient positioning information, using kilovoltage CT imaging. Note This code encompasses both Cone-Beam CT and conventional CT. | |
| ... | | | |
| 121726 | RT Treatment with Internal Verification | Radiotherapy treatment delivery using verification integral to the Treatment Delivery System. | |
| 121727 | RT Treatment with External Verification | Radiotherapy treatment delivery using verification by a external Machine Parameter Verifier. | |

| Code Value | Code Meaning | Definition | Notes |
|----------------|---|--|-------|
| ... | | | |
| 121735 | RT Brachy Treatment | Brachytherapy Treatment Delivery. | |
| <u>1217nn1</u> | <u>RT Image-Guided Patient Positioning and Treatment Delivery</u> | <u>Radiotherapy image-guided patient positioning and treatment delivery using verification integral to the Treatment Delivery System.</u> | |
| <u>1217nn2</u> | <u>RT Patient Position Acquisition, MR</u> | <u>Acquisition of radiotherapy patient positioning information, using magnetic resonance imaging.</u> | |
| <u>1217nn3</u> | <u>RT Patient Position Registration, MR</u> | <u>Registration of intended and actual patient position prior to treatment delivery, using MR images and an unspecified registration approach.</u> | |