

DICOM Correction Proposal

STATUS	Letter Ballot
Date of Last Update	2024/03/21
Person Assigned	Christof Schadt
Submitter Name	Stuart Swerdloff
Submission Date	2023/11/03

Correction Number	CP-2375
Log Summary: Add Generic RT Patient Support Position Parameters	
Name of Standard	PS3.16
<p>Rationale for Correction:</p> <p>A means of providing patient support in the upright position for radiation therapy has become available with multiple vendors needing to provide a consistent set of parameters for these types of devices. The current standard doesn't include the content for code sequences to express the information.</p> <p>In addition, with the inclusion of CID 9513 in the Standard in scope of Supplement 160, it was missed to add CID 9515 "RT Patient Support Device" to CID 9573 "Patient Treatment Preparation Device".</p>	
Correction Wording:	

Modify in PS3.16

TID 15305 PATIENT SETUP FIXATION DEVICE PARAMETERS

Type: Extensible
Order: Non-Significant
Root: No

	NL	Value Type	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		TEXT	EV (130657, DCM, "Couch Index Label")	1	U		
2		NUMERIC	EV (130658, DCM, "Fixation Device Angle")	1	U		Units = EV (deg, UCUM, "deg")
3		NUMERIC	EV (130659, DCM, "Abdominal Compression Plate Position Number")	1	U		UNIT = EV (1, UCUM, "no units")
4		NUMERIC	EV (130660, DCM, "Abdominal Compression Belt Length")	1	U		Units = EV (mm, UCUM, "mm")
5		NUMERIC	EV (130661, DCM, "Abdominal Compression Belt Pressure")	1	U		Units = EV (Pa, UCUM, "Pa")
6		NUMERIC	EV (RT240001, DCM, "Seat Height")	1	U		Units = EV (mm, UCUM, "mm")
7		NUMERIC	EV (RT240002, DCM, "Seat Pan Pitch Angle")	1	U		Units = EV (deg, UCUM, "deg")
8		NUMERIC	EV (RT240003, DCM, "Backrest Fixation Pitch Angle")	1	U		Units = EV (deg, UCUM, "deg")

9		<u>NUMERIC</u>	<u>EV (RT240004, DCM, "Shin Rest Fixation Position")</u>	1	<u>U</u>		<u>Units = EV (mm, UCUM, "mm")</u>
10		<u>NUMERIC</u>	<u>EV (RT240005, DCM, "Heel Fixation Stop Position")</u>	1	<u>U</u>		<u>Units = EV (mm, UCUM, "mm")</u>
11		<u>NUMERIC</u>	<u>EV (RT240006, DCM, "Left Arm Rest Position")</u>	1	<u>U</u>		<u>Units = EV (mm, UCUM, "mm")</u>
12		<u>NUMERIC</u>	<u>EV (RT240007, DCM, "Left Arm Rest Pitch Angle")</u>	1	<u>U</u>		<u>Units = EV (deg, UCUM, "deg")</u>
13		<u>NUMERIC</u>	<u>EV (RT240008, DCM, "Left Arm Rest Roll Angle")</u>	1	<u>U</u>		<u>Units = EV (deg, UCUM, "deg")</u>
14		<u>NUMERIC</u>	<u>EV (RT240009, DCM, "Right Arm Rest Position")</u>	1	<u>U</u>		<u>Units = EV (mm, UCUM, "mm")</u>
15		<u>NUMERIC</u>	<u>EV (RT240010, DCM, "Right Arm Rest Pitch Angle")</u>	1	<u>U</u>		<u>Units = EV (deg, UCUM, "deg")</u>
16		<u>NUMERIC</u>	<u>EV (RT240011, DCM, "Right Arm Rest Roll Angle")</u>	1	<u>U</u>		<u>Units = EV (deg, UCUM, "deg")</u>
17		<u>CODE</u>	<u>EV (RT240012, DCM, "Hand Grips Presence")</u>	1	<u>U</u>		<u>DCID 240 "Present-Absent"</u>

CID 9513 FIXATION DEVICES

Resources: [HTML](#) | [FHIR JSON](#) | [FHIR XML](#) | [IHE SVS XML](#)

Keyword: [FixationDevice](#)

FHIR Keyword: [dicom-cid-9513-FixationDevice](#)

Type: [Extensible](#)

Version: [2021090620240301](#)

UID: [1.2.840.10008.6.1.1223](#)

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	228745001	Bite block	A-01105	C0179321
DCM	130110	Headframe		
DCM	130111	Head Mask		
DCM	130112	Head and Neck Mask		
DCM	130113	Mold		
DCM	130114	Cast		
SCT	706683002	Headrest	R-FEEC3	C0181130
DCM	130116	Breast Board		
DCM	130117	Body Frame		
DCM	130118	Vacuum Mold		
DCM	130119	Whole Body Pod		
DCM	130120	Rectal Balloon		
DCM	130121	Vaginal Cylinder		
DCM	130653	Breast Bridge		
DCM	130654	Abdominal Compression Belt		
DCM	130655	Abdominal Compression Arch		

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	130656	Head Fixation Board		
SCT	<u>20406008</u>	<u>Backrest</u>		<u>C0336586</u>
DCM	<u>RT240021</u>	<u>Shin Rest</u>		
DCM	<u>RT240022</u>	<u>Heel Stop</u>		
SCT	<u>468115008</u>	<u>Arm Rest</u>		<u>C3880585</u>
DCM	<u>RT240024</u>	<u>Hand Grips</u>		
DCM	<u>RT240025</u>	<u>Seat Pan</u>		

CID 9573 PATIENT TREATMENT PREPARATION DEVICES

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML

Type: Extensible

Keyword: PatientTreatmentPreparationDevice

FHIR Keyword: dicom-cid-9573-PatientTreatmentPreparationDevice

Version: 2021090620240301

UID: 1.2.840.10008.6.1.1420

Coding Scheme Designator	Code Value	Code Meaning
<i>Include CID 9513 Fixation Devices</i>		
<i>Include CID 9515 RT Patient Support Device</i>		
<i>Include CID 9575 Patient Alignment Devices</i>		
<i>Include CID 9572 Patient Shielding Devices</i>		
<i>Include CID 9578 Motion Management Setup Devices</i>		

Add the following to the table in PS3.16, Annex D:

DICOM CONTROLLED TERMINOLOGY DEFINITIONS (NORMATIVE)

Code Value	Code Meaning	Definition	Notes
RT240001	Seat Pan Height	An adjustment that controls the distance between the seat pan (the resting place for the patient's bottom) and the nominal floor of the upright fixation device. Necessary so that legs won't have too great a distance to cover for placing the feet firmly on the nominal floor, nor be too cramped.	
RT240002	Seat Pan Pitch Angle	The seat pan acts as a thigh support, and this can be pitched downward so that the angle between the upper legs (knee to hip) and the abdomen can be adjusted. A Pitch angle of zero is a typical sitting position for a person at a desk. A pitch angle far from zero puts a person in a nearly standing stance.	

Code Value	Code Meaning	Definition	Notes
RT240003	Backrest Fixation Pitch Angle	The backrest fixation pitch angle controls the angle of the patient's back (when in a nominally seated or upright position) with respect to gravity. Typically tilted back a bit so that the back is resting and slightly supported.	
RT240004	Shin Rest Fixation Position	The shin rest fixation position allows for adjustment of the distance from the nominal center under the seat of the chair to the shin rest. It must be adjusted depending on the length of the legs of the patient and the stance of the patient (the stance of the patient is adjusted primarily through the thigh support fixation pitch angle and the backrest fixation pitch angle).	
RT240005	Heel Fixation Stop Position	The heel fixation stop position allows for the adjustment of the nominal distance from the shin rest to the heel fixation device. This must be adjusted depending on the size of the foot of the patient, the positioning of the shin rest, the length of the lower legs, and the angle of the lower legs with respect to gravity	
RT240006	Left Arm Rest Position	Extension of the left arm rest in the direction away from the patient's thorax	
RT240007	Left Arm Rest Pitch Angle	Rotation of the left arm rest from parallel to the ground to vertical (up or down), with the intent of adjusting one of the angles of the elbow	
RT240008	Left Arm Rest Roll Angle	Rotation of the left arm rest about the axis parallel to the ground, with the intent of adjusting the roll angle of the lower arm	
RT240009	Right Arm Rest Position	Extension of the right arm rest in the direction away from the patient's thorax	
RT240010	Right Arm Rest Pitch Angle	Rotation of the right arm rest from parallel to the ground to vertical (up or down), with the intent of adjusting one of the angles of the elbow	
RT240011	Right Arm Rest Roll Angle	Rotation of the left arm rest about the axis parallel to the ground, with the intent of adjusting the roll angle of the lower arm	
RT240012	Hand Grips Presence	Whether the hand grips are inserted in to the backrest (and are present or not). If the hand grips are present, it is implicit that the patient is intended to grip the hand grips with their hands (which ensures that the arms and elbows are lifted and not obstructing lateral access to the chest or breasts	
RT240021	Shin Rest	The device that is used to have the patient's shins immobilized by the natural weight and pressure of the patient's shins against the object.	

Code Value	Code Meaning	Definition	Notes
RT240022	Heel Stop	The device used to immobilize the heels of the patient in counterpoint to the shin rest.	
RT240024	Hand Grips	The device(s) that are placed above the patient's shoulders along the back rest, such that when gripped ensure that the patient's arms and elbows are lifted and not obstructing lateral access to the chest or breasts	
RT240025	Seat Pan	The device that is distinct from the backrest that supports the thighs (and bottom) of the patient	