

## DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2013/02/07
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Correction Number	CP-1232
Log Summary: Add iterative reconstruction to CT RDSR	
Name of Standard PS 3.16 2011	
Rationale for Correction:  The RDSR for CT already includes information about the acquisition parameters of each irradiation event, but does not include anything about the Reconstruction Algorithm. Since iterative reconstruction may be used to reduce (optimize) the exposure, even though it is not a characteristic of the acquisition event per se, it is useful to record in the RDSR for comparison purposes.	
Correction Wording:	

*Add to PS 3.6, Table A-3*

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

Context UID	Context Identifier	Context Group Name
...		
1.2.840.10008.6.1.958	10033	CT Reconstruction Algorithm

*Add content items to PS 3.16 TID 10013:*

**TID 10013      CT Irradiation Event Data**

....

**TID 10013  
CT IRRADIATION EVENT DATA  
Type: Extensible      Order: Significant**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (113819, DCM, "CT Acquisition")	1	M		
2	>	CONTAINS	TEXT	EV (125203, DCM, "Acquisition Protocol")	1	U		

3	>	CONTAINS	CODE	EV (123014 , DCM, "Target Region")	1	M		DCID (4030) CT and MR Anatomy Imaged
4	>	CONTAINS	CODE	EV (113820, DCM, "CT Acquisition Type")	1	M		DCID (10013) CT Acquisition Types
<b>4b</b>	<b>&gt;&gt;</b>	<b>CONTAINS</b>	<b>CODE</b>	<b>EV (113961, DCM, "Reconstruction Algorithm")</b>	<b>1-n</b>	<b>U</b>		<b>DCID (10033) CT Reconstruction Algorithm</b>
5	>	CONTAINS	CODE	EV (G-C32C, SRT, "Procedure Context")	1	U		DCID (10014) Contrast Imaging Technique
6	>	CONTAINS	UIDREF	EV (113769, DCM, "Irradiation Event UID")	1	M		
7	>	CONTAINS	CONTAINER	EV (113822, DCM, "CT Acquisition Parameters")	1	M		
...	...	...	...	...	...	...	...	...

**Content Item Descriptions**

...	...
<b>Row 4b</b>	<b>Though not a characteristic of the acquisition per se, the type of reconstruction intended has a bearing on the technique used. If multiple types of reconstruction are performed, multiple values can be listed. These values should correspond to the values of Reconstruction Algorithm (0018,9315) in the reconstructed images.</b>
...	...

Add Context Group for CT Reconstruction Algorithm to PS 3.16:

**CID 10033      CT Reconstruction Algorithm**

**Context ID 10033  
CT Reconstruction Algorithm**

**Type: Extensible                      Version: 20130207**

<b>Coding Scheme Designator</b>	<b>Code Value</b>	<b>Code Meaning</b>
DCM	113962	Filtered Back Projection
DCM	113963	Iterative Reconstruction

Note: The values in this Context Group correspond to the Defined Terms for Reconstruction Algorithm (0018,9315) used in the CT Reconstruction Functional Group Macro in PS 3.3.

Add Definitions to PS 3.16:

113961	Reconstruction Algorithm	Description of the algorithm used when reconstructing the image from the data acquired during the acquisition process.	
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113962	Filtered Back Projection	An algorithm for reconstructing an image from multiple projections by back-projecting the measured values along the line of the projection and filtering the result to reduce blurring.	
113963	Iterative Reconstruction	An algorithm for reconstructing an image from multiple projections by starting with an assumed reconstructed image, computing projections from the image, comparing the original projection data and updating the reconstructed image based upon the difference between the calculated and the actual projections.	