

DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2017/11/20
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Correction Number	CP-1189
Log Summary: Add usage of Temporal Position Macro as needed for Enhanced MR, Enhanced CT, Enhanced PET and related Legacy objects.	
Name of Standard	PS 3.3 2017d
Rationale for Correction: Currently there is no possibility to supply the temporal position information when a series is not a cardiac series. Add the Temporal Position Macro for Enhanced MR, Enhanced CT, Enhanced PET and the related Legacy objects. This approach is preferred over adding the Temporal Position Time Offset (0020,930D) to the Frame Content Macro, since the Temporal Position Macro is already intended for this purpose and used in the Enhanced US Volume IOD.	
Correction Wording:	

Item #1: Amend PS3.3 Table A36-2 to add Temporal Position Macro

A.36.2.4 Enhanced MR Image Functional Group Macros

Table A.36-2 specifies the use of the Functional Group Macros used in the Multi-frame Functional Groups Module for the Enhanced MR Image IOD.

Table A.36-2. Enhanced MR Image Functional Group Macros

Functional Group Macro	Section	Usage
...		
Functional MR	C.8.13.5.15	U
Temporal Position	C.7.6.16.2.23	U

Item #3: Amend PS3.3 Table A36-4 to add Temporal Position Macro

A.36.3.4 MR Spectroscopy Functional Group Macros

Table A.36-4 specifies the use of the Functional Group Macros used in the Multi-frame Functional Groups Module for the MR Spectroscopy IOD.

Table A.36-4. MR Spectroscopy Functional Group Macros

Functional Group Macro	Section	Usage
...		
MR Velocity Encoding	C.8.13.5.13	C - Required if Phase Contrast (0018,9014) equals YES and Image Type (0008,0008) Value 1 is ORIGINAL or MIXED. May be present otherwise.
Temporal Position	C.7.6.16.2.23	U

Item #3: Amend PS3.3 Table A38-2 to add Temporal Position Macro

A.38.1.4 Enhanced CT Image Functional Group Macros

Table A.38-2 specifies the use of the Functional Group Macros used in the Multi-frame Functional Groups Module for the Enhanced CT Image IOD.

Table A.38-2. Enhanced CT Image Functional Group Macros

Functional Group Macro	Section	Usage
...		
CT Additional X-Ray Source	C.8.15.3.11	C - Required if the image is reconstructed from a system with multiple X-Ray sources
Temporal Position	C.7.6.16.2.23	U

Item #4: Amend PS3.3 Table A56-2 to add Temporal Position Macro

A.56.4 Enhanced PET Image Functional Group Macros

Table A.56-2 specifies the use of the Functional Group Macros used in the Multi-frame Functional Groups Module for the Enhanced PET Image IOD.

Table A.56-2. Enhanced PET Image Functional Group Macros

Functional Group Macro	Section	Usage
...		
PET Table Dynamics	C.8.22.5.7	C - Required if Image Type (0008,0008) Value 1 equals ORIGINAL and Table Motion (0018,1134) is equal to DYNAMIC.
Temporal Position	C.7.6.16.2.23	U

Item #5: Amend PS3.3 Table A70-2 to add Temporal Position Macro

A.70.4 Legacy Converted Enhanced CT Image Functional Group Macros

Table A.70-2 specifies the use of the Functional Group Macros used in the Multi-frame Functional Groups Module for the Legacy Converted Enhanced CT Image IOD.

Table A.70-2. Legacy Converted Enhanced CT Image Functional Group Macros

Functional Group Macro	Section	Usage
...		
CT Pixel Value Transformation	C.8.15.3.10	M
<u>Temporal Position</u>	<u>C.7.6.16.2.23</u>	<u>U</u>
Unassigned Shared Converted Attributes	C.7.6.16.2.25.1	M - May not be used as a Per-Frame Functional Group
Unassigned Per-Frame Converted Attributes	C.7.6.16.2.25.2	M - May not be used as a Shared Functional Group
Image Frame Conversion Source	C.7.6.16.2.25.3	C - Required if created by conversion from a DICOM source; may not be used as a Shared Functional Group

Item #6: Amend PS3.3 Table A71-2 to add Temporal Position Macro

A.71.4 Legacy Converted Enhanced MR Image Functional Group Macros

Table A.71-2 specifies the use of the Functional Group Macros used in the Multi-frame Functional Groups Module for the Legacy Converted Enhanced MR Image IOD.

Table A.71-2. Legacy Converted Enhanced MR Image Functional Group Macros

Functional Group Macro	Section	Usage
...		
MR Image Frame Type	C.8.13.5.1	M
<u>Temporal Position</u>	<u>C.7.6.16.2.23</u>	<u>U</u>
Unassigned Shared Converted Attributes	C.7.6.16.2.25.1	M - May not be used as a Per-Frame Functional Group
Unassigned Per-Frame Converted Attributes	C.7.6.16.2.25.2	M - May not be used as a Shared Functional Group
Image Frame Conversion Source	C.7.6.16.2.25.3	C - Required if created by conversion from a DICOM source; may not be used as a Shared Functional Group

Item #7: Amend PS3.3 Table A72-2 to add Temporal Position Macro

A.72.4 Legacy Converted Enhanced PET Image Functional Group Macros

Table A.72-2 specifies the use of the Functional Group Macros used in the Multi-frame Functional Groups Module for the Legacy Converted Enhanced PET Image IOD.

Table A.72-2. Legacy Converted Enhanced PET Image Functional Group Macros

Functional Group Macro	Section	Usage
...		
PET Frame Type	C.8.22.5.1	M
Temporal Position	C.7.6.16.2.23	U
Unassigned Shared Converted Attributes	C.7.6.16.2.25.1	M - May not be used as a Per-Frame Functional Group
Unassigned Per-Frame Converted Attributes	C.7.6.16.2.25.2	M - May not be used as a Shared Functional Group
Image Frame Conversion Source	C.7.6.16.2.25.3	C - Required if created by conversion from a DICOM source; may not be used as a Shared Functional Group

Item #8: For reference unchanged, PS3.3 Temporal Position Macro:

C.7.6.16.2.23 Temporal Position Macro

Table C.7.6.16.2.23-1 specifies the attributes of the Temporal Position Functional Group Macro.

Table C.7.6.16.2.23-1. Temporal Position Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Temporal Position Sequence	(0020,9310)	1	Identifies the temporal position of the plane of this frame. Only a single Item shall be included in this Sequence.
>Temporal Position Time Offset	(0020,930D)	1	Time offset of the frame in the set of frames with different temporal positions, in seconds.