Status	Final Text
Date of Last Update	2020/11/16
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Submission Date	2019/11/25

Correction Number CP-2031
Log Summary: Add Frame of Reference Module to Surface Scan Mesh and Point Cloud IODs
Name of Standard PS3.3 2020d
Rationale for Correction: The Surface Scan Mesh and Surface Scan Point Cloud IODs need to contain the Frame of Reference Module, since the points they include are described in terms of an FoR UID. Add it.
Correction Wording:

*Amend PS3.3 as follows (changes to existing text are bold and **underlined** for additions and **~~struckthrough~~** for removals):*

Table A.1-2. Composite Information Object Modules Overview - Non-Images

IODs Modules	MR Spectroscopy	Raw Data	Surface Scan Point Cloud	Surface Scan Mesh	Content Assessment Result
...					
Frame of Reference	M	U	**M**	**M**	
...					

A.68 Surface Scan Mesh IOD

A.68.1 Surface Scan Mesh IOD Description

A.68.3 Surface Scan Mesh IOD Module Table

Table A.68-1. Surface Scan Mesh IOD Modules

IE	Module	Reference	Usage
Patient	Patient	???	M
	Clinical Trial Subject	???	U
Study	General Study	???	M
	Patient Study	???	U
	Clinical Trial Study	???	U
Series	General Series	???	M
	Clinical Trial Series	???	U
	Optical Surface Scanner Series	???	M
Frame of Reference	**Frame of Reference**	**C.7.4.1**	**M**
Equipment	General Equipment	???	M
	Enhanced General Equipment	???	M
Surface	Surface Mesh	C.27.1	M
	UV Mapping	???	U
	Scan Procedure	???	M
	Specimen	???	U
	SOP Common	???	M

A.69 Surface Scan Point Cloud IOD

A.69.1 Surface Scan Point Cloud IOD Description

A.69.3 Surface Scan Point Cloud IOD Module Table

Table A.69-1. Surface Scan Point Cloud IOD Modules

IE	Module	Reference	Usage
Patient	Patient	???	M
	Clinical Trial Subject	???	U

IE	Module	Reference	Usage
Study	General Study	???	M
	Patient Study	???	U
	Clinical Trial Study	???	U
Series	General Series	???	M
	Clinical Trial Series	???	U
	Optical Surface Scanner Series	???	M
Frame of Reference	**Frame of Reference**	**C.7.4.1**	**M**
Equipment	General Equipment	???	M
	Enhanced General Equipment	???	M
Surface	Point Cloud	C.27.5	M
	UV Mapping	???	U
	Scan Procedure	???	M
	Specimen	???	U
	SOP Common	???	M

C.27.1 Surface Mesh Module

Table C.27-1. Surface Mesh Module Attributes

Attribute Name	Tag	Type	Attribute Description
Number of Surfaces	(0066,0001)	1	Number of surfaces contained in the Instance. Shall be 1 or more. Shall be the same as the number of Items in Surface Sequence (0066,0002).
Surface Sequence	(0066,0002)	1	The surfaces that are described within the data. One or more Items shall be included in this Sequence. There shall be Number of Surfaces (0066,0001) Items in the Sequence. See ???.
...			
>Surface Points Sequence	(0066,0011)	1	The point positions representing vertices of the surface. Only a single Item shall be included in this Sequence.
>>*Include Table C.27-2 "Points Macro Attributes"*			
...			

C.27.2 Points Macro

Table C.27-2. Points Macro Attributes

Attribute Name	Tag	Type	Attribute Description
Number Of Surface Points	(0066,0015)	1	Specifies the number of points in the point set. See ???.
Point Coordinates Data	(0066,0016)	1	See ???
...			

C.27.2.1 Points Macro Attribute Descriptions

All Attributes within this ~~**Module**~~**Macro** containing points or vectors are in x-y-z order. If multiple elements are encoded, the ordering is $x_1,y_1,z_1,\ldots,x_n,y_n,z_n$.

The points are in the coordinate system identified by the Frame of Reference UID (0020,0052). To map these points into the coordinate system of another SOP Instance a Spatial Registration Instance can be used.

C.27.5 Point Cloud Module

Table C.27.5-1. Point Cloud Module Attributes

Attribute Name	Tag	Type	Attribute Description
Surface Points Sequence	(0066,0011)	1	The point positions representing vertices of the surface. Only one Item shall be included in the Sequence.
>Include Table C.27-2 "Points Macro Attributes"			
...			