

# DICOM Correction Proposal

STATUS	Letter Ballot
Date of Last Update	2023/09/02
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Correction Number	CP-2290
Log Summary:	PositionMeasuringDeviceUsed Enumeration
Name of Standard	PS3.3
Rationale for Correction:	<p>There is interest in keeping Position Measuring Device Used (0018,980C) compatible between Photoacoustic (PA) and Enhanced US Volume. The following discussion was brought up during the reviews of WG-34's Sup 229 PA IOD. The changes suggested here were included in the released Supplement 229 Photoacoustic IOD, 2023c, C.8.34.1 Photoacoustic Image, but should still be considered for Enhanced US Volume.</p> <p>From WG-34's review of the text, it appeared that Position Measuring Device Used (0018,980C) and the description of the enumerated values of RIGID or FREEHAND implied a type of Position Measuring Device. In this case, there was interest in also indicating a freehand transducer with an attached position measuring device. After reviewing the background of this attribute in the historical documents of Supplement 43, it was found that Position Measuring Device Used (0018,980C) was intended to indicate the likelihood of an accurate image position calibration based on the tracking technology in use. Because of this history, the CP is being amended to offer clarifications of the Position Measuring Device Used (0018,980C) wording.</p> <p>Background:</p> <p>In the history of Supplement 43, "Acquisition Precision", the original name for "Position Measuring Device Used", appeared in sup43_PublicCommentSummary.xls (WG12-3D\2008\2008-03-24):</p> <ul style="list-style-type: none"> <li>• Question: How is freehand acquisition identified? Freehand acquisition implies that the cartesian volume is distorted and/or imprecisely calibrated and the reader should know that.</li> <li>• Response: During 3/11/2008 Tcon, use of "DISTORTED" was considered too severe as it would have disallowed volume rendering or slicing operations on the data, and in fact the only problem is that calibration is questionable.</li> </ul> <p>On 3/21/2008, the Supplement 43 draft was updated with a qualifying attribute "Acquisition Precision" with the Pixel Spacing and Spacing Between Slices attributes indicating that freehand acquisition had occurred, and the calibration is imprecise. Between sup43_draft49_20090109.doc and sup43_draft54_20090320_1200.doc, "Acquisition Precision" was renamed to "Position Measuring Device Used".</p>
Correction Wording:	

*In PS3.3, section C.8.24.3 Enhanced US Image Module update the following text*

**Table C.8.24.3-1. Enhanced US Image Module Attributes**

Attribute Name	Tag	Type	Attribute Description
Position Measuring	(0018,980C)	1C	Describes the type of position measuring device used in the

Device Used		<p>acquisition of the image, if any. This gives an indication of the degree of precision of Pixel Spacing (0028,0030) and the spacing between adjacent planes.</p> <p><b><u>Note</u></b></p> <p><b><u>The actual precision will depend on a variety of factors such as the tracking technology used and the quality of the calibration.</u></b></p> <p>Enumerated Values:</p> <p>RIGID</p> <p>The image was acquired with a position measuring device <b><u>that rigidly connects the transducer to a frame of reference.</u></b></p> <p><b><u>TRACKED</u></b></p> <p><b><u>The image was acquired using freehand motion of the transducer with an associated position measuring device (i.e. tracked freehand transducer).</u></b></p> <p>FREEHAND</p> <p>The image was acquired <b><u>using freehand motion of the transducer</u></b> without a position measuring device.</p> <p>Required if Volumetric Properties (0008,9206) is VOLUME and Volume Based Calculation Technique (0008,9207) is NONE. May be present otherwise.</p>
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