DICOM Correction Proposal Form

Tracking Information - Administration Use Only	
Correction Proposal Number	CP-258
STATUS	Proposed
Date of Last Update	2000/05/17
Person Assigned	DICOM WG 21 (CT) for review and Andrew Hewett andrew.hewett@med.siemens.de
Submitter Name	Bernhard Hassold bernhard.hassold@med.siemens.de Andrew Hewett andrew.hewett@med.siemens.de
Submission date	2000/05/14

Correction Number	CP-258
Log Summary: Additional Radiation Dose Module Attributes for CT	
Type of Modification Clarification / Addition / Correction	Name of Standard PS 3.5 2000

Rationale for Correction

Enhance C.4-16 Radiation Dose Module Attributes to meet German and European X-ray Radiation Dose Record Requirements as required by the Euratom guideline and the German RoeV (RoentgenVerordnung) regulations.

Extend the dose module to include CTDI (Computed Tomography Dose Index) and DLP (Dose Length Product). No changes to PS 3.4 are necessary since the attributes of the Radiation Dose Module are include as “all other attributes” rather than being listed individually in the MPPS SOP Class definition.

CTDI is included in the Exposure Dose Sequence. DLP is not included in the sequence since it is the overall exposure for the complete CT examination.

Note: This proposal extends CP226 that describes additional attributes required to satisfy Japanese requirements for the Radiation Dose Module. A separate proposal is used to avoid delaying the urgent needs of JIRA and JAHIS. The attributes proposed by CP266 are included in this proposal for reference.

Sections of documents affected

PS 3.5, Table C.4-16

PS 3.6, Section 6

Correction Wording:

Item 1: Add to PS 3.3 Table C.4-16 Radiation Dose Module Attributes 8

Attribute Name	Tag	Attribute Description
Exposure Dose Sequence	(0040,030E)	Exposure Dose Sequence will contain "Total number of exposures (0040, 0301)" items plus an item for each fluoroscopy episode not already counted as an exposure.
>Radiation Mode	(0018,115A)	Specifies X-Ray radiation mode. Enumerated Values: CONTINUOUS PULSED
>KVp	(0018,0060)	Peak kilo voltage output of the x-ray generator used. An average in the case of fluoroscopy (continuous radiation mode).
>X-ray Tube Current in µA	(0018,8151)	X-ray Tube Current in µA. An average in the case of fluoroscopy (continuous radiation mode).
>Exposure Time	(0018,1150)	Time of x-ray exposure or fluoroscopy in msec.
>Filter Type	(0018,1160)	Type of filter(s) inserted into the X-Ray beam (e.g. wedges). See C.7.10 for Defined Terms.
>Filter Material	(0018,7050)	The X-Ray absorbing material used in the filter. May be multi-valued. See C.7.10 for Defined Terms.
>CTDIw	**(xxx,xxx)**	**Weighted Computed Tomography Dose Index, in mGy according to IEC 60601-2-44.** **An estimate of the average dose over a single slice in a CT dosimetry phantom that is used to allow comparison of performance against a reference dose value set for the purpose of promoting optimisation of patient protection.** **$CTDI_w = 1/3\ CTDI_{100,c} + 2/3\ CTDI_{100,p}$ (mGy)** **Where $CTDI_{100,c\ or\ p}$ refer to measurements of $CTDI_{100}$ at the centre (c) or periphery (p) of the head or body phantom for the settings used in clinical practice.**
DLP	**(xxx,xxx)**	**Dose Length Product.in mGycm.** **Dose descriptor used as an indicator of overall exposure for a complete CT examination in order to allow comparison of performance against a reference dose value set for the purpose of promoting optimisation of patient protection.** **$DLP = \sum_i CTDI_w * T * N$ (mGy cm)** **Where I represents each scan sequence forming of an examination, and $CTDI_w$ ist the weighted CTDI for each of the N slices T (cm) in the sequence.**

Item 2: Add to PS 3.6, Section 6

Tag	Name	VR	VM
(0040,030E)	Exposure Dose Sequence	SQ	1
(xxxx,xxxx)	**CTDIw**	**DS**	**1**
(xxxx,xxxx)	**DLP**	**DS**	**1**