

DICOM Correction Proposal

STATUS	Letter Ballot
Date of Last Update	2025/11/10
Person Assigned	Kevin O'Donnell (kodonnell@mru.medical.canon)
Submitter Name	Kevin O'Donnell (kodonnell@mru.medical.canon)
Submission Date	2019/10/01

Correction Number	CP-1982
Log Summary:	Add mechanism for handling sensitive images
Name of Standard	PS3.3, PS3.15, PS3.16, PS3.17
Rationale for Correction:	<p>Many sites have policies that medical images such as plastic surgery photos, abuse photos, and photos of certain anatomy are considered sensitive due to their content. Access to those images is restricted and/or audited differently than access to other medical images.</p> <p>"Sensitive images" are "any image obtained or used for the purpose of providing care with the potential to reveal personal information (beyond protected health information) that may cause the patient, patient proxy, or health care provider embarrassment, shock, grief, or emotional distress." See https://link.springer.com/article/10.1007/s10278-024-00980-8.</p> <p>The Attribute added in this CP does not encode site policy but rather encode values that describe the nature of the image content which then can facilitate the implementation and invocation of such site policies.</p> <p>Multiple categories of sensitivity may be encoded since more than one may apply and the policies and procedures may also differ.</p> <p>Implementation of some policies may depend on Storage SCPs providing this Attribute as query or return keys. That is permitted, but this CP does not make their support mandatory, as it would break existing implementations.</p> <p><i>[Ed. Note: CRS request ID #nnnnn for SCT codes to add to DICOM subset:]</i></p> <p><i>[Ed. Note: SCT codes used will be added to Annex O during editing and are intentionally not listed here.]</i></p>
Correction Wording:	

Modify PS3.3 C.12.1 as shown

5 C.12.1 SOP Common Module

...

Table C.12-1. SOP Common Module Attributes

Attribute Name	Tag	Type	Attribute Description
...			
Original Specialized SOP Class UID	(0008,001B)	3	The SOP Class in which the Instance was originally encoded that has been replaced during a fall-back conversion to the current Related General SOP Class. See PS3.4

Attribute Name	Tag	Type	Attribute Description
<u>Sensitive Content Code Sequence</u>	<u>(xxxx,yyyy)</u>	<u>3</u>	<u>Indicates the potential presence of sensitive content in the instance. See Section C.7.6.1.X.</u> <u>One or more Items are permitted in this Sequence.</u> <u>If this Attribute is absent, then the instance may or may not contain sensitive content.</u>
<u>>Include Table 8.8-1 "Code Sequence Macro Attributes"</u>			<u>DCID Newcid1 "Sensitive Content Category"</u> <u>DCID Newcid2 "Sensitive Content Detail"</u>
Synthetic Data	(0008,001C)	3	Whether or not some or all of the content of this instance was made artificially rather than being a faithful representation of acquired data. ...
...			

10 Add new Section PS3.3 C.7.6.1.X as shown

C.7.6.1.X Sensitive Content

15 Sensitive Content Code Sequence (xxxx,yyyy) records sensitivity categories that apply to this image. The decision of whether or not to record such sensitivity codes, the sensitivity codes to use, and the organizational and system behaviors that are triggered by such sensitivity codes, are all driven by local customs, policies, and conventions. See PS3.17 Image Sensitivity Code Use Cases for further usage context and examples.

Multiple categories may apply to the same image.

20 In addition to the category codes, the sequence may also contain one or more detailed codes indicating the basis for the assigned category. E.g., the nudity category code might be accompanied by one or more detailed codes indicating the type of body part that triggered the nudity label. The entirety of the body part may or may not be present, and the body part might not be the intended target of the image.

The order of codes is not significant.

Note: The detailed codes may or may not follow the corresponding category code.

The meaning of multiple items being present is not defined beyond each being individually applicable to the image.

25 In addition to visible light images (like photographs), there may also be cases where sites might choose to apply these categories to radiological images (e.g., surface renderings of volumetric scans like CT, genitals discernable in pelvic x-rays, tattoos being detectable, gender reassignment imaging, mammography, etc.).

30 Note: Ideally, if both Image Sensitivity Code Sequence (xxxx,yyyy) and Recognizable Visual Features (0028,0302) are present, then the values should be consistent. I.e., an item with a Value of (Newcode3, DCM, "Identifying Content") should be present in the Sensitive Content Code Sequence (xxxx,yyyy) if Recognizable Visual Features (0028,0302) has a Value of YES, and absent if Recognizable Visual Features (0028,0302) has a Value of NO.

Add tag to PS3.6 Table 6-1

Tag	Name	Keyword	VR	VM	
<u>(xxxx,yyyy)</u>	<u>Sensitive Content Code Sequence</u>	<u>SensitiveContentCode Sequence</u>	<u>SQ</u>	<u>1</u>	

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Add Context Group to PS3.16 as shown for Image Sensitivity Categories

CID newcid1 Sensitive Content Category

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
Type: Extensible
Version: yyyymmdd
UID: 1.2.840.10008.6.1.newciduid1

Table CID newcid1. Sensitive Content Category

Coding Scheme Designator	Code Value	Code Meaning
DCM	Newcode0	No Sensitive Content Identified
DCM	Newcode1	Nudity Content
DCM	Newcode2	Personal Content
DCM	Newcode3	Identifying Content
DCM	Newcode4	Gruesome Content
DCM	Newcode5	Sensitive Content

Add Context Group to PS3.16 as shown for Image Sensitivity Details

Ed. Note SCT codes that are likely new to the DICOM Subset are highlighted in yellow

CID newcid2 Sensitive Content Detail

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
Type: Extensible
Version: yyyymmdd
UID: 1.2.840.10008.6.1.newciduid2

Table CID newcid2. Sensitive Content Detail

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
SCT	386702006	Abuse		
SCT	53505006	Anus	T-59900	
SCT	29240004	Autopsy		
SCT	51089004	Birthmark		
SCT	87612001	Blood	T-C2000	C0005767
SCT	76752008	Breast	T-04000	C0006141
SCT	125667009	Bruising		
SCT	125666000	Burn		
SCT	46862004	Buttock	T-D2600	C0006497
SCT	65439009	Clitoris		
SCT	73761001	Colonoscopy		
SCT	392003006	Colposcopy		
SCT	56306000	Cosmetic surgery		
SCT	423827005	Endoscopy		

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	Newcode18	Excised tissue		
SCT	89545001	Face		
SCT	71934003	Genitals		
SCT	430861001	Gross specimen	G-843A	C2316367
SCT	64013008	Hair of scalp		
SCT	409774005	Inflammation	M-0100C	C1444073
SCT	39117004	Labia		
SCT	312608009	Laceration		
SCT	73632009	Laparoscopy		
SCT	24142002	Nipple	T-04100	C0028109
SCT	125643001	Open wound		
SCT	430339001	Pediatric autopsy		
SCT	18911002	Penis	T-91000	C0030851
SCT	364320009	Pregnancy status		
SCT	75776007	Pubic hair		
SCT	271807003	Rash	D0-00058	C0015230
SCT	20233005	Scrotum	T-98000	C0036471
SCT	112633009	Surgical wound		
SCT	65124004	Swelling	M-02570	C0038999
SCT	341000119102	Tattoo		
SCT	40689003	Testis	T-94000	C0039597
SCT	417746004	Traumatic injury	DF-00777	C3263723
SCT	76784001	Vagina	T-82000	C0042232

Note: The selected concepts in this Context Group are representative and not exhaustive, and further, reflect a variable amount of overlapping detail. E.g., (312608009, SCT, "Laceration") is a child of (125643001, SCT, "Open wound").

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Add definitions to PS 3.16 Annex D

Table D-1. DICOM Controlled Terminology Definitions

Code Value	Code Meaning	Definition	Notes
...			
Newcode0	No Sensitive Content Identified	No sensitive content codes were identified as being applicable to this image.	

<u>Newcode1</u>	<u>Nudity Content</u>	<u>The image includes content which may be considered to constitute nudity, such as photos of genitals, breasts, buttocks, etc.</u>	
<u>Newcode2</u>	<u>Personal Content</u>	<u>The image includes content deemed personal by the image subject. This might include photos of abuse injuries, plastic surgeries, or photos indicating the religion, culture, or politics of the image subject.</u>	
<u>Newcode3</u>	<u>Identifying Content</u>	<u>The image includes content commonly used to identify the image subjects, such as photos of the face, tattoos, birthmarks, fingerprints, dental structures, retina, etc.</u>	
<u>Newcode4</u>	<u>Gruesome Content</u>	<u>The image includes content considered gruesome, gory, or violent by some viewers, such as photos of abuse injuries, trauma, surgery, autopsy, or blood.</u>	
<u>Newcode5</u>	<u>Sensitive Content</u>	<u>The image may include content considered sensitive for other reasons, such as religious, cultural, or political sensitivities.</u>	
...			
<u>Newcode18</u>	<u>Excised Tissue</u>	<u>Tissue that has been excised from the patient.</u>	
...			

Modify PS3.15 as shown

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Table A.5.2-1. General Message Format

	Field Name	Opt.	Description	Additional Conditions on Field Format/Value
Event	EventID	M	Identifier for a specific audited event.	The identifier for the family of event. E.g., "User Authentication". DCID 400 "Audit Event ID"
	...			
Active Participant (multi-valued)	UserID	M	Unique identifier for the user actively participating in the event.	See Section A.5.2.1.
	...			
Audit Source	AuditEnterpriseSiteID	U	Logical source location within the healthcare enterprise network, e.g., a hospital or other provider location within a multi-entity provider group.	Serves to further qualify the Audit Source ID, since Audit Source ID is not required to be globally unique.
	...			
Participant Object (multi-valued)	ParticipantObjectTypeCode	U	Code for the participant object type being audited. This value is distinct from the user's role or any user relationship to the participant object.	Person System Object Organization Other
	...			

	Field Name	Opt.	Description	Additional Conditions on Field Format/Value
	ParticipantObjectSensitivity	U	Denotes policy-defined sensitivity for the Participant Object ID such as VIP, HIV status, mental health status, or similar topics. <u>This may be influenced by values in the Sensitive Content Code Sequence (xxxx.yyyy) if present in the participant object.</u>	Locally defined terms.
	ParticipantObjectID	M	Identifies a specific instance of the participant object.	Usage refined by individual message descriptions
	...			

Add informative annex to PS 3.17

Annex X Sensitive Content Code Use Cases (Informative)

- 70 This Annex describes examples and considerations for the usage of the Sensitive Content Code Sequence (xxxx.yyyy) Attribute. See PS3.3 Table C.12-1 SOP Common Module Attributes.

Some healthcare sites have policies and procedures whereby medical images such as abuse photos, plastic surgery photos, and photos of certain anatomy, are considered sensitive due to their content, and access to those images is restricted and/or audited differently than access to other medical images.

- 75 A HIMSS-SIIM Enterprise Imaging Community Whitepaper describes "sensitive images" as "any image obtained or used for the purpose of providing care with the potential to reveal personal information (beyond protected health information) that may cause the patient, patient proxy, or health care provider embarrassment, shock, grief, or emotional distress." (See <http://link.springer.com/article/10.1007/s10278-024-00980-8>)

X.1 SETTING SENSITIVE CONTENT CODES

- 80 Sensitive Content Code Sequence (xxxx.yyyy) contains codes for both sensitive content categories and sensitive content details. Multiple categories of sensitivity may be encoded since more than one may apply and the policies and procedures applicable to each category may also differ.

- 85 The codes are intended to describe the nature of image content that is associated with corresponding site policies and procedures. The policies themselves are not encoded. It is assumed that implementations will be configured to invoke appropriate behaviors based on the presence of these codes.

The decision to populate such codes is primarily up to the site managing the images and may be based on local policies, regulations, customs and conventions. Determining which categories and details will be used and determining the criteria by which the codes are applied are also largely a local policy decision.

- 90 The ability to assign such codes to an image instance might be provided by the originating image acquisition device, the image archive, or some third-party workstation or QA system. Typically, it is expected that assignment of codes, if any, would occur either during or shortly after the image acquisition workflow.

Assignment of codes might be done manually or might be automated with or without human review. Some codes might be assigned based on the type of procedure, target anatomy, or analysis of the image itself.

- 95 The choice of codes to apply to a given image might differ between institutions, regions, practitioners, and patients based on local customs, policies and conventions. As such, when images from another institution are imported locally, the coercion process to integrate external images into the local image management might involve adding, modifying, or removing codes in the Sensitive Content Code Sequence (xxxx.yyyy) to better support local policies and procedures for sensitive images. That process should take into consideration both the policies of the originating site and those of the receiving site. Since (Newcode2, DCM, "Personal Content") may be based on a determination by the patient, it would likely remain unmodified during coercion. If codes are modified or removed, it is recommended
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that implementations consider recording the original values in the Original Attributes Sequence (0400,0561) to provide an audit trail.

Since the sensitivity codes may be added or changed after creation of the image, it is likely that digital signatures of the image content might exclude this attribute to avoid breaking the image signature when this attribute is modified.

105 **X.2 USING SENSITIVE CONTENT CODES**

The primary purpose of populating the Sensitive Content Code Sequence (xxxx,yyyy) is to facilitate implementation of associated site policies. Typically, these policies are intended to protect the privacy of the subject and/or protect the sensibilities of people viewing the images.

Example behaviors that might be invoked include:

- 110 • An Image Display might present a warning message, based on the presence of one or more category or detail codes, before asking the user if they want to proceed with displaying the image. The text of the warning might incorporate text from the code meaning of the corresponding sensitivity codes.
- 115 • A PACS might audit and/or restrict the retrieval of images based on the role or identity of the user and the presence of one or more category or detail codes.

Such behaviors are not mandated by the Standard.

Implementation of some policies may depend on Storage SCPs providing these attributes as query or return keys. Such SCP support is permitted but not required by the Standard.

120 The behaviors applied to different types of sensitive images may differ between institutions and regions based on local regulations, policies, implementation capabilities, and configurations. Thus, the same content code may trigger different behaviors in different organizations/contexts.

Implementations should consider how to handle the presence of unrecognized content codes. One approach might be to default to a restrictive policy in such situations (i.e., "fail closed" rather than "fail open")

125 Ultimately, the logic of deciding which policies and mechanisms to invoke based on the items in the sequence (e.g., applying the most restrictive of the triggered policies, or having newer items supersede older items, or during import coercion to retain older items in the Sensitive Content Code Sequence (xxxx,yyyy) or to move older items to the Original Attributes Sequence (0400,0561)) is left to the implementation.