E Attribute Confidentiality Profiles (Normative)

This Annex addresses the removal and replacement of Attributes within a DICOM Dataset that may potentially result in leakage of Individually Identifiable Information (III) about the patient or other individuals or organizations associated with the data.

Note

Use of the Attribute Confidentiality Profiles does not guarantee that all individually identifying information will be removed, i.e., de-identification of the Attributes does not imply de-identification of the Information Object. Use of this profile does not replace a de-identification process, but should be part of it. The description of such a process is beyond the scope of DICOM, but would at least involve determining the context of the de-identification (e.g., for what purpose is the data de-identified, who are the recipients, how is the de-identified data shared), interpreting the applicable regulations, and assessing the risk of detrimental re-identification.

The Profiles is provided to address the balance between the removal of information and the need to retain information so that the Datasets remain useful for their intended purpose.

Options are used in addition to the Profile to prevent a combinatorial expansion of different Profiles.

E.1 Application Level Confidentiality Profiles

The Application Level Confidentiality Profile addresses the following aspects of security:

- Data Confidentiality at the application layer.

Other aspects of security not addressed by this Profile, that may be addressed elsewhere in the Standard, include:

- Confidentiality in other layers of the DICOM model;
- Data Integrity.

Thus Profile is targeted toward creating a special purpose, de-identified version of an already-existing Data Set. It is not intended to replace the original SOP Instance from which the de-identified SOP Instance is created, nor is it intended to act as the primary representation of clinical Data Sets in image archives. The de-identified SOP Instances are useful, for example, in creating teaching or research files, performing clinical trials, or submission to registries where the identity of the patient and other individuals is required to be protected. In some cases, it is also necessary to provide a means of recovering identity by authorized personnel.

E.1.1 De-identifier

An Application may claim conformance to the Basic Application Level Confidentiality Profile and Options as a de-identifier if it protects and retains *all* Attributes as specified in the Profile and Options. Protection in this context is defined as the following process:

1. The application may create one or more instances of the Encrypted Attributes Data Set and copy Attributes to be protected into the (single) item of the Modified Attributes Sequence (0400,0550) of one or more of the Encrypted Attributes Data Set instances.

   Note

   1. *A complete reconstruction of the original Data Set may not be possible; however, Attributes (e.g., SOP Instance UID) in the Modified Attributes Sequence of an Encrypted Attributes Data Set may refer back to the original SOP Instance holding the original Data Set.*

   2. *It is not required that the Encrypted Attributes Data Set be created; indeed, there may be circumstances where the de-identified Dataset is expected to be archived long enough that any contemporary encryption technology may be inadequate to provide long term protection against unauthorized recovery of identification.*

   3. *Other mechanisms to assist in identity recovery or longitudinal consistency of replaced UIDs or dates and times are deprecated in favor of the Encrypted Attributes Data Set mechanism that is intended for this purpose. For example, if it is desired to include an encrypted hash of the Patient's Name, it should not be encoded in a separate Private Data Element implemented for that purpose, but should be included in the Encrypted Attributes Data Set and encoded using the standard mechanism. This allows for compatibility between different implementations and provides security based on the quality and control of the encryption keys. Note also, that unencrypted hashes are considerably less secure and should be avoided, since they are vulnerable to trivial dictionary based attacks.*

2. Each Attribute to be protected shall then either be removed from the dataset, or have its value replaced by a different "replacement value" that does not allow identification of the patient.

   Note

   1. *It is the responsibility of the de-identifier to ensure that this process does not negatively affect the integrity of the Information Object Definition, i.e., Dummy values may be necessary for Type 1 Attributes that are protected but may not be sent with zero length, and are to be stored or exchanged in encrypted form by applications that may not be aware of the security mechanism.*

   2. *The Standard does not mandate the use of any particular dummy value, and indeed it may have some meaning, for example in data that may be used for teaching purposes, where the real patient identifying information is encrypted for later retrieval, but a meaningful alternative form of identification is provided. For example, a dummy Patient's Name (0010,0010) may convey the type of pathology in a teaching case. It is the responsibility of the de-identifier software or human operator to ensure that the dummy values cannot be*

used to identify the patient.

3. *It is the responsibility of the de-identifier to ensure the consistency of dummy values for Attributes such as Study Instance UID (0020,000D) or Frame of Reference UID (0020,0052) if multiple related SOP Instances are protected. Indeed, all Attributes of every entity about the Instance level should remain consistent for all Instances protected, e.g., Patient ID for the Patient entity, Study ID for the Study entity, Series Number for the Series entity.*

4. *If an Attribute to be protected is contained in a Sequence of Items, the complete Sequence of Items may need to be protected.*

5. *The de-identifier should ensure that no identifying information that is burned in to the image pixel data either because the modality does not generate such burned in identification in the first place, or by removing it through the use of the Clean Pixel Data Option; see Section E.3. If non-pixel data graphics or overlays contain identification, the de-identifier is required to remove them, or clean them if the Clean Graphics Option is supported. See Section E.3.3 The means by which burned in or graphic identifying information is located and removed is outside the scope of this Standard.*

3. Each Attribute specified to be retained shall be retained. At the discretion of the de-identifier, Attributes may be added to the dataset to be protected.

Note

As an example, the Attribute Patient's Age (0010,1010) might be introduced as a replacement for Patient's Birth Date (0010,0030) if the patient's age is of importance, and the selected Options permit it.

4. If used, all instances of the Encrypted Attributes Data Set shall be encoded with a DICOM Transfer Syntax, encrypted, and stored in the dataset to be protected as an Item of the Encrypted Attributes Sequence (0400,0500). The encryption shall be done using RSA [RFC 2313] for the key transport of the content-encryption keys. A de-identifier conforming to this security Profile may use either AES or Triple-DES for content-encryption. The AES key length may be any length allowed by the RFCs. The Triple-DES key length is 168 bits as defined by [ANSI X9.52]. Encoding shall be performed according to the specifications for RSA Key Transport and Triple DES Content Encryption in [RFC 3370] and for AES Content Encryption in [RFC 3565].

Note

1. *Each item of the Encrypted Attributes Sequence (0400,0500) consists of two Attributes, Encrypted Content Transfer Syntax UID (0400,0510) containing the UID of the Transfer Syntax that was used to encode the instance of the Encrypted Attributes Data Set, and Encrypted Content (0400,0520) containing the block of data resulting from the encryption of the Encrypted Attributes Data Set instance.*

2. *RSA key transport of the content-encryption keys is specified as a requirement in the European Prestandard ENV 13608-2: Health Informatics - Security for healthcare communication - Part 2: Secure data objects.*

5. No requirements on the size of the asymmetric key pairs used for RSA key transport are defined in this confidentiality scheme. Implementations claiming conformance to the Basic Application Level Confidentiality Profile as a de-identifier shall always protect (e.g., encrypt and replace) the SOP Instance UID (0008,0018) Attribute as well as all references to other SOP Instances, whether contained in the main dataset or embedded in an Item of a Sequence of Items, that could potentially be used by unauthorized entities to identify the patient.

   Note

   In the case of a SOP Instance UID embedded in an Item of a Sequence, this means that the enclosing Attribute in the top-level Data Set must be encrypted in its entirety.

6. The Attribute Patient Identity Removed (0012,0062) shall be replaced or added to the dataset with a value of YES. Additionally, one or more codes from CID 7050 “De-identification Method” corresponding to the Profile and Options used shall be added to De-identification Method Code Sequence (0012,0064), and/or a text string describing the method used shall be inserted in or added to De-identification Method (0012,0063).

7. If the Dataset being de-identified is being stored within a DICOM File, then the File Meta Information including the 128 byte preamble, if present, shall be replaced with a description of the de-identifying application. Otherwise, there is a risk that identity information may leak through unmodified File Meta Information or preamble. See PS3.10. This includes information regarding Application Entity Titles, Presentation Addresses, implementation information, and private information.

8. If the Dataset being de-identified is being communicated by DICOM Real-Time Video, then the File Meta Information including the 128 byte preamble, if present, shall be replaced with a description of the de-identifying application. Otherwise, there is a risk that identity information may leak through unmodified File Meta Information or preamble. See PS3.22. This includes information regarding Application Entity Titles, Presentation Addresses, implementation information, and private information.

The Attributes listed in Table E.1-1 for each Profile or Option are contained in Standard IODs, or may be contained in Standard Extended IODs. An implementation claiming conformance to the Basic Application Level Confidentiality Profile as a de-identifier shall protect or retain all instances of the Attributes listed in Table E.1-1, whether contained in the main dataset or embedded in an Item of a Sequence of Items. The action codes in Table E.1-1a are used in Table E.1-1.

Table E.1-1a. De-identification Action Codes

D	replace with a non-zero length value that may be a dummy value and consistent with the VR
Z	replace with a zero length value, or a non-zero length value that may be a dummy value and consistent with the VR
X	remove
K	keep (unchanged for non-Sequence Attributes, cleaned for Sequences)
C	clean, that is replace with values of similar meaning known not to contain identifying information and consistent with the VR
U	replace with a non-zero length UID that is internally consistent within a set of Instances

Z/D	Z unless D is required to maintain IOD conformance (Type 2 versus Type 1)
X/Z	X unless Z is required to maintain IOD conformance (Type 3 versus Type 2)
X/D	X unless D is required to maintain IOD conformance (Type 3 versus Type 1)
X/Z/D	X unless Z or D is required to maintain IOD conformance (Type 3 versus Type 2 versus Type 1)
X/Z/U*	X unless Z or replacement of contained instance UIDs (U) is required to maintain IOD conformance (Type 3 versus Type 2 versus Type 1 sequences containing UID references)

These action codes are applicable to both Sequence and non-Sequence Attributes; in the case of Sequences, the action is applicable to the Sequence and all of its contents. Cleaning a sequence ("C" action) entails changing values of Attributes within that Sequence when the meaning of the Sequence within the context of its use in the IOD is specified, or recursively applying the Profile rules to each Dataset in each Item of the Sequence otherwise. Keeping a Sequence ("K" action) requires recursively applying the Profile rules to each Dataset in each Item of the Sequence (for example, in order to remap any UIDs contained within that sequence).

A requirement for an Option, when implemented, overrides any requirement for the underlying Profile. This will make de-identification retain or remove more information.

Note

1. *The Attributes listed in Table E.1-1 may not be sufficient to guarantee confidentiality of patient identity. In particular, identifying information may be contained in Private Attributes, new Standard Attributes, Retired Standard Attributes and additional Standard Attributes not present in Standard Composite IODs (as defined in PS3.3) but used in Standard Extended SOP Classes. Table E.1-1 indicates those Attributes that are used in Standard Composite IODs as well as those Attributes that are Retired. Also included in Table E.1-1 are some Elements that are not normally found in a Dataset, but are used in Commands, Directories and Meta Information Headers, but that could be misused within Private Sequences. Textual Content Items of Structured Reports, textual annotations of Presentation States, Curves and Overlays are specifically addressed. It is the responsibility of the de-identifier to ensure that all identifying information is removed.*

2. *It should be noted that conformance to the Basic Application Level Confidentiality Profile does not necessarily guarantee confidentiality. For example, if an attacker already has access to the original images, the Pixel Data could be matched, though the probability and impact of such a threat may be deemed to be negligible. If the Encrypted Attributes Sequence is used, it should be understood that any encryption scheme may be vulnerable to attack. Also, an organization's Security Policy and Key Management policy are recognized to have a much greater impact on the effectiveness of protection.*

3. *National and local regulations, which may vary, might require that additional Attributes be de-identified, though the Profile and Options have been designed to be sufficient to satisfy known regulations without compromising the usefulness of the de-identified instances for their intended purpose.*

4. *Table E.1-1 is normative, but it is subject to extension as the DICOM Standard evolves and other similar Attributes are added to IODs. De-identifiers may take this extensibility into account, for example, by considering handling all dates and times on the basis of their Value Representation of DT, DA or TM, rather than just those date and time Attributes lists.*

5. *The Profile and Options do not specify whether the design of a de-identifier should be to remove what is known to be a risk of identity leakage, or to retain only what is known to be safe. The former approach may fail when the Standard is extended, or when a vendor adds unanticipated Standard Attributes or Private Attributes, whilst the latter requires an extensive, if not complete, comparison of each instance with the Information Object Definitions in PS3.3 to avoid discarding required or useful information. Table E.1-1 defines the minimum actions required for conformance.*

6. *De-identification of Private SOP Classes is not defined.*

7. *The "C" (clean) action is specified not only for string VRs, but also for Code Sequences, since the use of private or local codes and non-standard code meanings may potentially cause identity leakage.*

8. *The Digital Signatures Sequence (FFFA,FFFA) needs to be removed because it contains the Certificate of Signer (0400,0115); theoretically the signature could be verified and the object re-signed by the de-identifier itself with its own certificate, but this is not required by the Standard.*

9. *In general, there are no CS VR Attributes in this table, since it is usually safe to assume that code strings do not contain identifying information.*

10. *In general, there are no Code Sequence Attributes in this table, since it is usually safe to assume that coded sequence entries, including private codes, do not contain identifying information. Exceptions are codes for providers and staff.*

11. *The Clean Pixel Data and Clean Recognizable Visual Features Options are not listed in this table, since they are defined by descriptions of operations on the Pixel Data itself. The Clean Pixel Data Option may be applied to the Pixel Data within the Icon Image Sequence, or more likely the Icon Image Sequence may be recreated entirely once the Pixel Data of the main Dataset has been cleaned. The Icon Image Sequence is to be removed when its Pixel Data cannot be cleaned.*

12. *The Original Attributes Sequence (0400,0561) (which in turn contains the Modified Attributes Sequence (0400,0550)) generally needs to be removed, because it may contain unencrypted copies of other Attributes that may have been modified (e.g., coerced to use local identifiers and names during import of foreign images); an alternative approach would be to selectively modify its contents. This is distinct from the use of the Modified Attributes Sequence (0400,0550) within the Encrypted Attributes Sequence (0400,0500).*

13. *Table E.1-1 distinguishes Attributes that are in standard Composite IODs defined in PS3.3 from those that are not; some Attributes are defined in PS3.3 for other IODs, or have a specific usage other than in the top level Dataset of a Composite IOD, but are (mis-) used by implementers in instances as a Standard Extended SOP Class at other levels than as defined by the Standard. Any such Attributes encountered may be removed without compromising the conformance of the instance with the standard IOD. For example, Verifying Observer Sequence (0040,A073) is only*

defined in structured report IODs and hence is described in Table E.1-1 as D since it is Type 1C; if encountered in an image instance, it should simply be removed (treated as X).

14. *Using an Attribute Confidentiality Profile Option that requires the retention of information that normally would be removed, potentially increases the risk of detrimental re-identification. Following de-identification rules as outlined here implies retention or non-retention of information only and does not deal with any related regulatory aspect.*

15. *Because of the varied nature of encapsulated documents (CDA, PDF, STL/OBJ, etc.), options for cleaning the content of the Encapsulated Document (0042,0011) Attribute are not specified by the Standard, and it is required to be replaced. If a De-identifier has additional knowledge of the content it may attempt to clean the Attribute, and document in its Conformance Statement how this is performed.*

Table E.1-1. Application Level Confidentiality Profile Attributes

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Accession Number	(0008,0050)	N	Y	Z										
Acquisition Comments	(0018,4000)	Y	N	X								C		
Acquisition Context Sequence	(0040,0555)	N	Y	X/Z									C	
Acquisition Date	(0008,0022)	N	Y	X/Z						K	C			
Acquisition DateTime	(0008,002A)	N	Y	X/Z/D						K	C			
Acquisition Device Processing Description	(0018,1400)	N	Y	X/D								C		
Acquisition Field Of View Label	(0018,11BB)	N	Y	D								C		
Acquisition Protocol Description	(0018,9424)	N	Y	X								C		
Acquisition Time	(0008,0032)	N	Y	X/Z						K	C			
Acquisition UID	(0008,0017)	N	Y	U		K								
Actual Human Performers	(0040,4035)	N	N	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Sequence														
Additional Patient History	(0010,21B0)	N	Y	X								C		
Address (Trial)	(0040,A353)	Y	N	X										
Admission ID	(0038,0010)	N	Y	X										
Admitting Date	(0038,0020)	N	N	X						K	C			
Admitting Diagnoses Code Sequence	(0008,1084)	N	Y	X								C		
Admitting Diagnoses Description	(0008,1080)	N	Y	X								C		
Admitting Time	(0038,0021)	N	N	X						K	C			
Affected SOP Instance UID	(0000,1000)	N	N	X		K								
Allergies	(0010,2110)	N	N	X					C			C		
Annotation Group Description	(006A,0006)	N	Y	X								C		
Annotation Group Label	(006A,0005)	N	Y	D								C		
Annotation Group UID	(006A,0003)	N	Y	D		K								
Approval Status DateTime	(0044,0004)	N	N	X						K	C			
Arbitrary	(4000,0010)	Y	N	X										
Assertion DateTime	(0044,0104)	N	Y	D						K	C			
Assertion Expiration DateTime	(0044,0105)	N	Y	X						K	C			
Attribute Modification DateTime	(0400,0562)	N	Y	D						K	C			
Author Observer Sequence	(0040,A078)	N	Y	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Barcode Value	(2200,0005)	N	Y	X/Z										
Beam Description	(300A,00C3)	N	Y	X								C		
Beam Hold Transition DateTime	(300C,0127)	N	Y	D			K			K	C			
Bolus Description	(300A,00DD)	N	Y	X								C		
Branch of Service	(0010,1081)	N	N	X										
Calibration Date	(0014,407E)	N	N	X			K			K	C			
Calibration DateTime	(0018,1203)	N	Y	Z			K			K	C			
Calibration Time	(0014,407C)	N	N	X			K			K	C			
Camera Owner Name	(0016,004D)	N	Y	X										
Cassette ID	(0018,1007)	N	Y	X			K							
Certificate of Signer	(0400,0115)	N	Y	D										
Certified Timestamp	(0400,0310)	N	Y	X						K	C			
Clinical Trial Coordinating Center Name	(0012,0060)	N	Y	Z				K						
Clinical Trial Protocol Ethics Committee Approval Number	(0012,0082)	N	Y	X										
Clinical Trial Protocol Ethics Committee Name	(0012,0081)	N	Y	D				K						
Clinical Trial Protocol ID	(0012,0020)	N	Y	D										
Clinical Trial Protocol Name	(0012,0021)	N	Y	Z										
Clinical Trial Series Description	(0012,0072)	N	Y	X								C		
Clinical Trial Series	(0012,0071)	N	Y	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
ID														
Clinical Trial Site ID	(0012,0030)	N	Y	Z				K						
Clinical Trial Site Name	(0012,0031)	N	Y	Z				K						
Clinical Trial Sponsor Name	(0012,0010)	N	Y	D										
Clinical Trial Subject ID	(0012,0040)	N	Y	D										
Clinical Trial Subject Reading ID	(0012,0042)	N	Y	D										
Clinical Trial Time Point Description	(0012,0051)	N	Y	X								C		
Clinical Trial Time Point ID	(0012,0050)	N	Y	Z										
Comments on Radiation Dose	(0040,0310)	N	Y	X								C		
Comments on the Performed Procedure Step	(0040,0280)	N	Y	X								C		
Compensator Description	(300A,02EB)	N	Y	X								C		
Concatenation UID	(0020,9161)	N	Y	U		K								
Conceptual Volume Combination Description	(3010,000F)	N	Y	Z								C		
Conceptual Volume Description	(3010,0017)	N	Y	Z								C		
Conceptual Volume UID	(3010,0006)	N	Y	U		K								
Confidentiality Constraint on Patient Data Description	(0040,3001)	N	N	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Constituent Conceptual Volume UID	(3010,0013)	N	Y	U		K								
Consulting Physician's Name	(0008,009C)	N	Y	Z										
Consulting Physician Identification Sequence	(0008,009D)	N	Y	X										
Container Component ID	(0050,001B)	N	Y	X										
Container Description	(0040,051A)	N	Y	X								C		
Container Identifier	(0040,0512)	N	Y	D										
Content Creator's Identification Code Sequence	(0070,0086)	N	Y	X										
Content Creator's Name	(0070,0084)	N	Y	Z/D										
Content Date	(0008,0023)	N	Y	Z/D						K	C			
Content Sequence	(0040,A730)	N	Y	D									C	
Content Time	(0008,0033)	N	Y	Z/D						K	C			
Context Group Local Version	(0008,0107)	N	Y	D						K	C			
Context Group Version	(0008,0106)	N	Y	D						K	C			
Contrast/Bolus Agent	(0018,0010)	N	Y	Z/D								C		
Contrast/Bolus Start Time	(0018,1042)	N	Y	X						K	C			
Contrast/Bolus Stop Time	(0018,1043)	N	Y	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Contribution DateTime	(0018,A002)	N	Y	X						K	C			
Contribution Description	(0018,A003)	N	Y	X								C		
Country of Residence	(0010,2150)	N	N	X										
Creation Date	(2100,0040)	N	N	X						K	C			
Creation Time	(2100,0050)	N	N	X						K	C			
Current Observer (Trial)	(0040,A307)	Y	N	X										
Current Patient Location	(0038,0300)	N	N	X										
Curve Data	(50xx,xxxx)	Y	N	X										C
Curve Date	(0008,0025)	Y	Y	X						K	C			
Curve Time	(0008,0035)	Y	Y	X						K	C			
Custodial Organization Sequence	(0040,A07C)	N	Y	X										
Data Set Trailing Padding	(FFFC,FFFC)	N	Y	X										
Date	(0040,A121)	N	Y	D						K	C			
Date of Document or Verbal Transaction (Trial)	(0040,A110)	Y	N	X						K	C			
Date of Last Calibration	(0018,1200)	N	Y	X			K			K	C			
Date of Last Detector Calibration	(0018,700C)	N	Y	X/D			K			K	C			
Date of Secondary Capture	(0018,1012)	N	Y	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
DateTime	(0040,A120)	N	Y	D						K	C			
DateTime of Last Calibration	(0018,1202)	N	N	X			K			K	C			
Decay Correction DateTime	(0018,9701)	N	Y	D						K	C			
Decomposition Description	(0018,937F)	N	Y	X								C		
Derivation Description	(0008,2111)	N	Y	X								C		
Destination AE	(2100,0140)	N	Y	D			C							
Detector ID	(0018,700A)	N	Y	X/D			K							
Device Alternate Identifier	(3010,001B)	N	Y	Z										
Device Description	(0050,0020)	N	Y	X			K							
Device Label	(3010,002D)	N	Y	D			K							
Device Serial Number	(0018,1000)	N	Y	X/Z/D			K							
Device Setting Description	(0016,004B)	N	Y	X								C		
Device UID	(0018,1002)	N	Y	U		K	K							
Digital Signature DateTime	(0400,0105)	N	Y	D						K	C			
Digital Signatures Sequence	(FFFA,FFFA)	N	Y	X										
Digital Signature UID	(0400,0100)	N	Y	U										
Dimension Organization UID	(0020,9164)	N	Y	U		K								
Discharge Date	(0038,0030)	Y	N	X						K	C			
Discharge Diagnosis Description	(0038,0040)	Y	N	X								C		

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Discharge Time	(0038,0032)	Y	N	X						K	C			
Displacement Reference Label	(300A,079A)	N	Y	X								C		
Distribution Address	(4008,011A)	Y	N	X										
Distribution Name	(4008,0119)	Y	N	X										
Dose Reference Description	(300A,0016)	N	Y	X								C		
Dose Reference UID	(300A,0013)	N	Y	U		K								
Dosimetric Objective UID	(3010,006E)	N	Y	U		K								
Effective DateTime	(0068,6226)	N	Y	D						K	C			
Encapsulated Document	(0042,0011)	N	Y	D										
End Acquisition DateTime	(0018,9517)	N	Y	X/D						K	C			
Entity Description	(3010,0037)	N	Y	X								C		
Entity Label	(3010,0035)	N	Y	D								C		
Entity Long Label	(3010,0038)	N	Y	D								C		
Entity Name	(3010,0036)	N	Y	X								C		
Equipment Frame of Reference Description	(300A,0676)	N	Y	X								C		
Ethics Committee Approval Effectiveness End Date	(0012,0087)	N	Y	X						K	C			
Ethics Committee Approval Effectiveness Start Date	(0012,0086)	N	Y	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Ethnic Group	(0010,2160)	N	Y	X					K					
Exclusion Start DateTime	(0018,9804)	N	Y	D						K	C			
Expected Completion DateTime	(0040,4011)	N	N	X						K	C			
Failed SOP Instance UID List	(0008,0058)	N	N	U		K								
Fiducial UID	(0070,031A)	N	Y	U		K								
Filler Order Number / Imaging Service Request	(0040,2017)	N	Y	Z										
Filter Lookup Table Description	(003A,032B)	N	Y	X								C		
Findings Group Recording Date (Trial)	(0040,A023)	Y	N	X						K	C			
Findings Group Recording Time (Trial)	(0040,A024)	Y	N	X						K	C			
First Treatment Date	(3008,0054)	N	Y	X/D						K	C			
Fixation Device Description	(300A,0196)	N	Y	X								C		
Flow Identifier	(0034,0002)	N	Y	D										
Flow Identifier Sequence	(0034,0001)	N	Y	D										
Fractionation Notes	(3010,007F)	N	Y	Z								C		
Fraction Group Description	(300A,0072)	N	Y	X								C		
Frame Acquisition DateTime	(0018,9074)	N	Y	D						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Frame Comments	(0020,9158)	N	Y	X								C		
Frame of Reference UID	(0020,0052)	N	Y	U		K								
Frame Origin Timestamp	(0034,0007)	N	Y	D						K	C			
Frame Reference DateTime	(0018,9151)	N	Y	D						K	C			
Functional Sync Pulse	(0018,9623)	N	Y	D						K	C			
Gantry ID	(0018,1008)	N	Y	X			K							
Generator ID	(0018,1005)	N	Y	X			K							
GPS Altitude	(0016,0076)	N	Y	X										
GPS Altitude Ref	(0016,0075)	N	Y	X										
GPS Area Information	(0016,008C)	N	Y	X										
GPS Date Stamp	(0016,008D)	N	Y	X						K	C			
GPS Dest Bearing	(0016,0088)	N	Y	X										
GPS Dest Bearing Ref	(0016,0087)	N	Y	X										
GPS Dest Distance	(0016,008A)	N	Y	X										
GPS Dest Distance Ref	(0016,0089)	N	Y	X										
GPS Dest Latitude	(0016,0084)	N	Y	X										
GPS Dest Latitude Ref	(0016,0083)	N	Y	X										
GPS Dest Longitude	(0016,0086)	N	Y	X										
GPS Dest Longitude Ref	(0016,0085)	N	Y	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
GPS Differential	(0016,008E)	N	Y	X										
GPS DOP	(0016,007B)	N	Y	X										
GPS Img □Direction	(0016,0081)	N	Y	X										
GPS Img□ Direction Ref	(0016,0080)	N	Y	X										
GPS Latitude□	(0016,0072)	N	Y	X										
GPS Latitude□ Ref	(0016,0071)	N	Y	X										
GPS Longitude	(0016,0074)	N	Y	X										
GPS Longitude Ref	(0016,0073)	N	Y	X										
GPS Map□ Datum	(0016,0082)	N	Y	X										
GPS Measure □ Mode	(0016,007A)	N	Y	X										
GPS Processing□ Method	(0016,008B)	N	Y	X										
GPS Satellites	(0016,0078)	N	Y	X										
GPS Speed□	(0016,007D)	N	Y	X										
GPS Speed□ Ref	(0016,007C)	N	Y	X										
GPS Status	(0016,0079)	N	Y	X										
GPS Time Stamp	(0016,0077)	N	Y	X										
GPS Track	(0016,007F)	N	Y	X										
GPS Track Ref	(0016,007E)	N	Y	X										
GPS Version ID	(0016,0070)	N	Y	X										
Graphic Annotation Sequence	(0070,0001)	N	Y	D										C
Hanging Protocol Creation DateTime	(0072,000A)	N	Y	D						K	C			
HL7 Document Effective Time	(0040,E004)	N	N	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Human Performer's Name	(0040,4037)	N	N	X										
Human Performer's Organization	(0040,4036)	N	N	X										
Icon Image Sequence (see Note 12)	(0088,0200)	N	Y	X										
Identifying Comments	(0008,4000)	Y	N	X								C		
Image Comments	(0020,4000)	N	Y	X								C		
Image Presentation Comments	(0028,4000)	Y	N	X										
Imaging Service Request Comments	(0040,2400)	N	N	X								C		
Impedance Measurement DateTime	(003A,0314)	N	Y	D						K	C			
Impressions	(4008,0300)	Y	N	X								C		
Information Issue DateTime	(0068,6270)	N	Y	D						K	C			
Instance Coercion DateTime	(0008,0015)	N	Y	X						K	C			
Instance Creation Date	(0008,0012)	N	Y	X/D						K	C			
Instance Creation Time	(0008,0013)	N	Y	X/Z/D						K	C			
Instance Creator UID	(0008,0014)	N	Y	U		K								
Instance Origin Status	(0400,0600)	N	Y	X										
Institution Address	(0008,0081)	N	Y	X				K						

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Institutional Department Name	(0008,1040)	N	Y	X				K						
Institutional Department Type Code Sequence	(0008,1041)	N	Y	X				K						
Institution Code Sequence	(0008,0082)	N	Y	X/Z/D				K						
Institution Name	(0008,0080)	N	Y	X/Z/D				K						
Instruction Performed DateTime	(0018,9919)	N	Y	Z/D						K	C			
Insurance Plan Identification	(0010,1050)	Y	N	X										
Intended Fraction Start Time	(3010,0085)	N	Y	X						K	C			
Intended Phase End Date	(3010,004D)	N	Y	X/D						K	C			
Intended Phase Start Date	(3010,004C)	N	Y	X/D						K	C			
Intended Recipients of Results Identification Sequence	(0040,1011)	N	N	X										
Interlock DateTime	(300A,0741)	N	Y	D						K	C			
Interlock Description	(300A,0742)	N	Y	D								C		
Interlock Origin Description	(300A,0783)	N	Y	D								C		
Interpretation Approval Date	(4008,0112)	Y	N	X						K	C			
Interpretation Approval Time	(4008,0113)	Y	N	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Interpretation Approver Sequence	(4008,0111)	Y	N	X										
Interpretation Author	(4008,010C)	Y	N	X										
Interpretation Diagnosis Description	(4008,0115)	Y	N	X								C		
Interpretation ID	(4008,0200)	Y	N	X										
Interpretation ID Issuer	(4008,0202)	Y	N	X										
Interpretation Recorded Date	(4008,0100)	Y	N	X						K	C			
Interpretation Recorded Time	(4008,0101)	Y	N	X						K	C			
Interpretation Recorder	(4008,0102)	Y	N	X										
Interpretation Text	(4008,010B)	Y	N	X								C		
Interpretation Transcriber	(4008,010A)	Y	N	X										
Interpretation Transcription Date	(4008,0108)	Y	N	X						K	C			
Interpretation Transcription Time	(4008,0109)	Y	N	X						K	C			
Intervention Drug Start Time	(0018,0035)	N	Y	X						K	C			
Intervention Drug Stop Time	(0018,0027)	N	Y	X						K	C			
Irradiation Event UID	(0008,3010)	N	Y	U		K								
Issue Date of Imaging Service Request	(0040,2004)	N	N	X						K	C			
Issuer of Admission	(0038,0011)	Y	Y	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
ID														
Issuer of Admission ID Sequence	(0038,0014)	N	Y	X										
Issuer of Patient ID	(0010,0021)	N	Y	X										
Issuer of Service Episode ID	(0038,0061)	Y	Y	X										
Issuer of Service Episode ID Sequence	(0038,0064)	N	Y	X										
Issuer of the Container Identifier Sequence	(0040,0513)	N	Y	Z										
Issuer of the Specimen Identifier Sequence	(0040,0562)	N	Y	Z										
Issue Time of Imaging Service Request	(0040,2005)	N	N	X						K	C			
Label Text	(2200,0002)	N	Y	X/Z								C		
Large Palette Color Lookup Table UID	(0028,1214)	Y	N	U		K								
Last Menstrual Date	(0010,21D0)	N	N	X						K	C			
Lens Make	(0016,004F)	N	Y	X			K							
Lens Model	(0016,0050)	N	Y	X			K							
Lens Serial Number	(0016,0051)	N	Y	X			K							
Lens Specification	(0016,004E)	N	Y	X			K							
Long Device Description	(0050,0021)	N	Y	X								C		
MAC	(0400,0404)	N	Y	X										
Maker Note	(0016,002B)	N	Y	X								C		

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Manufacturer's Device Class UID	(0018,100B)	N	Y	U		K	K							
Manufacturer's Device Identifier	(3010,0043)	N	Y	Z			K							
Media Storage SOP Instance UID	(0002,0003)	N	N	U		K								
Medical Alerts	(0010,2000)	N	N	X								C		
Medical Record Locator	(0010,1090)	Y	N	X										
Military Rank	(0010,1080)	N	N	X										
Modified Attributes Sequence	(0400,0550)	N	N	X										
Modified Image Date	(0020,3403)	Y	N	X						K	C			
Modified Image Description	(0020,3406)	Y	N	X										
Modified Image Time	(0020,3405)	Y	N	X						K	C			
Modifying Device ID	(0020,3401)	Y	N	X			K							
Modifying System	(0400,0563)	N	Y	D			K							
Most Recent Treatment Date	(3008,0056)	N	Y	X/D						K	C			
Multi-energy Acquisition Description	(0018,937B)	N	Y	X								C		
Multiplex Group UID	(003A,0310)	N	Y	U		K								
Name of Physician(s) Reading Study	(0008,1060)	N	Y	X										
Names of Intended Recipients of Results	(0040,1010)	N	N	X										
Network ID	(0008,1000)	Y	N	X			C							

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Nonconforming Data Element Value	(0400,0552)	N	N	X										
Nonconforming Modified Attributes Sequence	(0400,0551)	N	N	X										
Observation Date (Trial)	(0040,A192)	Y	N	X						K	C			
Observation DateTime	(0040,A032)	N	Y	X/D						K	C			
Observation Start DateTime	(0040,A033)	N	Y	X						K	C			
Observation Subject UID (Trial)	(0040,A402)	Y	N	U		K								
Observation Time (Trial)	(0040,A193)	Y	N	X						K	C			
Observation UID	(0040,A171)	N	Y	U		K								
Occupation	(0010,2180)	N	Y	X								C		
Operator Identification Sequence	(0008,1072)	N	Y	X/D										
Operators' Name	(0008,1070)	N	Y	X/Z/D										
Order Callback Phone Number	(0040,2010)	N	N	X										
Order Callback Telecom Information	(0040,2011)	N	N	X										
Order Entered By	(0040,2008)	N	N	X										
Order Enterer's Location	(0040,2009)	N	N	X										
Original Attributes Sequence	(0400,0561)	N	Y	X										
Originator	(2100,0070)	N	N	X			C							

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Other Patient IDs	(0010,1000)	Y	Y	X										
Other Patient IDs Sequence	(0010,1002)	N	Y	X										
Other Patient Names	(0010,1001)	N	Y	X										
Overlay Comments	(60xx,4000)	Y	N	X										C
Overlay Data	(60xx,3000)	N	Y	X										C
Overlay Date	(0008,0024)	Y	Y	X						K	C			
Overlay Time	(0008,0034)	Y	Y	X						K	C			
Override DateTime	(300A,0760)	N	Y	D						K	C			
Palette Color Lookup Table UID	(0028,1199)	N	Y	U		K								
Participant Sequence	(0040,A07A)	N	Y	X										
Participation DateTime	(0040,A082)	N	Y	Z						K	C			
Patient's Address	(0010,1040)	N	N	X										
Patient's Age	(0010,1010)	N	Y	X					K					
Patient's Birth Date	(0010,0030)	N	Y	Z										
Patient's Birth Name	(0010,1005)	N	N	X										
Patient's Birth Time	(0010,0032)	N	Y	X										
Patient's Institution Residence	(0038,0400)	N	N	X										
Patient's Insurance Plan Code Sequence	(0010,0050)	N	Y	X										
Patient's Mother's Birth Name	(0010,1060)	N	N	X										
Patient's Name	(0010,0010)	N	Y	Z										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Patient's Primary Language Code Sequence	(0010,0101)	N	Y	X										
Patient's Primary Language Modifier Code Sequence	(0010,0102)	N	Y	X										
Patient's Religious Preference	(0010,21F0)	N	N	X										
Patient's Sex	(0010,0040)	N	Y	Z					K					
Patient's Sex Neutered	(0010,2203)	N	Y	X/Z					K					
Patient's Size	(0010,1020)	N	Y	X					K					
Patient's Telecom Information	(0010,2155)	N	N	X										
Patient's Telephone Numbers	(0010,2154)	N	N	X										
Patient's Weight	(0010,1030)	N	Y	X					K					
Patient Comments	(0010,4000)	N	Y	X								C		
Patient ID	(0010,0020)	N	Y	Z										
Patient Setup Photo Description	(300A,0794)	N	Y	X								C		
Patient Setup UID	(300A,0650)	Y	N	U		K								
Patient State	(0038,0500)	N	N	X					C			C		
Patient Transport Arrangements	(0040,1004)	N	N	X										
Patient Treatment Preparation Method Description	(300A,0792)	N	Y	X								C		
Patient Treatment Preparation Procedure	(300A,078E)	N	Y	X								C		

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Parameter Description														
Performed Location	(0040,0243)	N	N	X										
Performed Procedure Step Description	(0040,0254)	N	Y	X								C		
Performed Procedure Step End Date	(0040,0250)	N	Y	X						K	C			
Performed Procedure Step End DateTime	(0040,4051)	N	N	X						K	C			
Performed Procedure Step End Time	(0040,0251)	N	Y	X						K	C			
Performed Procedure Step ID	(0040,0253)	N	Y	X										
Performed Procedure Step Start Date	(0040,0244)	N	Y	X						K	C			
Performed Procedure Step Start DateTime	(0040,4050)	N	N	X						K	C			
Performed Procedure Step Start Time	(0040,0245)	N	Y	X						K	C			
Performed Station AE Title	(0040,0241)	N	N	X			C							
Performed Station AE Title	(0040,0241)	N	N	X			K							
Performed Station Geographic Location Code Sequence	(0040,4030)	N	N	X			K							

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Performed Station Name	(0040,0242)	N	N	X			K							
Performed Station Name Code Sequence	(0040,4028)	N	N	X			K							
Performing Physician's Name	(0008,1050)	N	Y	X										
Performing Physician Identification Sequence	(0008,1052)	N	Y	X										
Person's Address	(0040,1102)	N	Y	X										
Person's Telecom Information	(0040,1104)	N	Y	X										
Person's Telephone Numbers	(0040,1103)	N	Y	X										
Person Identification Code Sequence	(0040,1101)	N	Y	D										
Person Name	(0040,A123)	N	Y	D										
Physician(s) of Record	(0008,1048)	N	Y	X										
Physician(s) of Record Identification Sequence	(0008,1049)	N	Y	X										
Physician(s) Reading Study Identification Sequence	(0008,1062)	N	Y	X										
Physician Approving Interpretation	(4008,0114)	Y	N	X										
Placer Order Number / Imaging Service Request	(0040,2016)	N	Y	Z										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Plate ID	(0018,1004)	N	Y	X			K							
Position Acquisition Template Description	(3002,0123)	N	Y	X								C		
Position Acquisition Template Name	(3002,0121)	N	Y	X								C		
Pregnancy Status	(0010,21C0)	N	N	X					K					
Pre-Medication	(0040,0012)	N	N	X					C					
Prescription Description	(300A,000E)	N	Y	X								C		
Prescription Notes	(3010,007B)	N	Y	Z								C		
Prescription Notes Sequence	(3010,0081)	N	Y	Z								C		
Presentation Creation Date	(0070,0082)	N	Y	X						K	C			
Presentation Creation Time	(0070,0083)	N	Y	X						K	C			
Presentation Display Collection UID	(0070,1101)	N	Y	U		K								
Presentation Sequence Collection UID	(0070,1102)	N	Y	U		K								
Prior Treatment Dose Description	(3010,0061)	N	Y	X								C		
Private Attributes	*(gggg,eeee) where gggg is odd*	N	N	X	C									
Procedure Step Cancellation DateTime	(0040,4052)	N	N	X						K	C			
Product Expiration DateTime	(0044,000B)	N	N	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Protocol Name	(0018,1030)	N	Y	X/D								C		
Pyramid Description	(0008,1088)	N	Y	X								C		
Pyramid Label	(0020,0027)	N	Y	X								C		
Pyramid UID	(0008,0019)	N	Y	U		K								
Radiation Dose Identification Label	(300A,0619)	N	Y	D								C		
Radiation Dose In-Vivo Measurement Label	(300A,0623)	N	Y	D								C		
Radiation Generation Mode Description	(300A,067D)	N	Y	Z								C		
Radiation Generation Mode Label	(300A,067C)	N	Y	D								C		
Radiopharmaceutical Start DateTime	(0018,1078)	N	Y	X						K	C			
Radiopharmaceutical Start Time	(0018,1072)	N	Y	X						K	C			
Radiopharmaceutical Stop DateTime	(0018,1079)	N	Y	X						K	C			
Radiopharmaceutical Stop Time	(0018,1073)	N	Y	X						K	C			
Reason for Omission Description	(300C,0113)	N	Y	X								C		
Reason for Requested Procedure Code Sequence	(0040,100A)	N	Y	X								C		
Reason for Study	(0032,1030)	Y	N	X								C		
Reason for Superseding	(3010,005C)	N	Y	Z								C		

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Reason for the Attribute Modification	(0400,0565)	N	Y	D								C		
Reason for the Imaging Service Request	(0040,2001)	Y	N	X								C		
Reason for the Requested Procedure	(0040,1002)	N	Y	X								C		
Reason for Visit	(0032,1066)	N	Y	X								C		
Reason for Visit Code Sequence	(0032,1067)	N	Y	X								C		
Receiving AE	(0074,1234)	N	N	X			C							
Recorded RT Control Point DateTime	(300A,073A)	N	Y	D						K	C			
Referenced Conceptual Volume UID	(3010,000B)	N	Y	U		K								
Referenced DateTime	(0040,A13A)	N	Y	D						K	C			
Referenced Digital Signature Sequence	(0400,0402)	N	Y	X										
Referenced Dose Reference UID	(300A,0083)	N	Y	U		K								
Referenced Dosimetric Objective UID	(3010,006F)	N	Y	U		K								
Referenced Fiducials UID	(3010,0031)	N	Y	U		K								
Referenced Frame of Reference UID	(3006,0024)	N	Y	U		K								
Referenced General	(0040,4023)	Y	N	U		K								

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Purpose Scheduled Procedure Step Transaction UID														
Referenced Image Sequence	(0008,1140)	N	Y	X/Z/U*		K								
Referenced Observation UID (Trial)	(0040,A172)	Y	N	U		K								
Referenced Patient Alias Sequence	(0038,0004)	N	N	X										
Referenced Patient Photo Sequence	(0010,1100)	N	Y	X										
Referenced Patient Sequence	(0008,1120)	N	Y	X		K								
Referenced Performed Procedure Step Sequence	(0008,1111)	N	Y	X/Z/D		K								
Referenced SOP Instance MAC Sequence	(0400,0403)	N	Y	X										
Referenced SOP Instance UID	(0008,1155)	N	Y	U		K								
Referenced SOP Instance UID in File	(0004,1511)	N	N	U		K								
Referenced Study Sequence	(0008,1110)	N	Y	X/Z		K								
Referenced Treatment Position Group UID	(300A,0785)	N	Y	U		K								
Referring Physician's Address	(0008,0092)	N	N	X										
Referring Physician's	(0008,0090)	N	Y	Z										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Name														
Referring Physician's Telephone Numbers	(0008,0094)	N	N	X										
Referring Physician Identification Sequence	(0008,0096)	N	Y	X										
Region of Residence	(0010,2152)	N	N	X										
Related Frame of Reference UID	(3006,00C2)	Y	N	U		K								
Request Attributes Sequence	(0040,0275)	N	Y	X								C		
Requested Contrast Agent	(0032,1070)	N	N	X								C		
Requested Procedure Comments	(0040,1400)	N	N	X								C		
Requested Procedure Description	(0032,1060)	N	Y	X/Z								C		
Requested Procedure ID	(0040,1001)	N	N	X										
Requested Procedure Location	(0040,1005)	N	N	X										
Requested Series Description	(0018,9937)	N	Y	X								C		
Requested SOP Instance UID	(0000,1001)	N	N	U		K								
Requesting AE	(0074,1236)	N	N	X			C							
Requesting Physician	(0032,1032)	N	N	X										
Requesting Service	(0032,1033)	N	N	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Respiratory Motion Compensation Technique Description	(0018,9185)	N	Y	X								C		
Responsible Organization	(0010,2299)	N	Y	X										
Responsible Person	(0010,2297)	N	Y	X										
Results Comments	(4008,4000)	Y	N	X								C		
Results Distribution List Sequence	(4008,0118)	Y	N	X										
Results ID	(4008,0040)	Y	N	X										
Results ID Issuer	(4008,0042)	Y	N	X										
Retrieve AE Title	(0008,0054)	N	Y	X			C							
Review Date	(300E,0004)	N	Y	Z						K	C			
Reviewer Name	(300E,0008)	N	Y	X/Z										
Review Time	(300E,0005)	N	Y	Z						K	C			
ROI Description	(3006,0028)	N	Y	X								C		
ROI Generation Description	(3006,0038)	N	Y	X								C		
ROI Interpreter	(3006,00A6)	N	Y	Z										
ROI Name	(3006,0026)	N	Y	Z								C		
ROI Observation Description	(3006,0088)	Y	Y	X								C		
ROI Observation Label	(3006,0085)	Y	Y	X								C		
RT Accessory Device Slot ID	(300A,0615)	N	Y	Z										
RT Accessory Holder Slot ID	(300A,0611)	N	Y	Z										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
RT Physician Intent Narrative	(3010,005A)	N	Y	Z								C		
RT Plan Date	(300A,0006)	N	Y	X/D						K	C			
RT Plan Description	(300A,0004)	N	Y	X								C		
RT Plan Label	(300A,0002)	N	Y	D								C		
RT Plan Name	(300A,0003)	N	Y	X								C		
RT Plan Time	(300A,0007)	N	Y	X/D						K	C			
RT Prescription Label	(3010,0054)	N	Y	D								C		
RT Tolerance Set Label	(300A,062A)	N	Y	D								C		
RT Treatment Approach Label	(3010,0056)	N	Y	X/D								C		
RT Treatment Phase UID	(3010,003B)	N	Y	U		K								
Safe Position Exit Date	(3008,0162)	N	Y	D						K	C			
Safe Position Exit Time	(3008,0164)	N	Y	D						K	C			
Safe Position Return Date	(3008,0166)	N	Y	D						K	C			
Safe Position Return Time	(3008,0168)	N	Y	D						K	C			
Scheduled Admission Date	(0038,001A)	Y	N	X						K	C			
Scheduled Admission Time	(0038,001B)	Y	N	X						K	C			
Scheduled Discharge Date	(0038,001C)	Y	N	X						K	C			
Scheduled	(0038,001D)	Y	N	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Discharge Time														
Scheduled Human Performers Sequence	(0040,4034)	N	N	X										
Scheduled Patient Institution Residence	(0038,001E)	Y	N	X										
Scheduled Performing Physician's Name	(0040,0006)	N	N	X										
Scheduled Performing Physician Identification Sequence	(0040,000B)	N	N	X										
Scheduled Procedure Step Description	(0040,0007)	N	Y	X								C		
Scheduled Procedure Step End Date	(0040,0004)	N	N	X						K	C			
Scheduled Procedure Step End Time	(0040,0005)	N	N	X						K	C			
Scheduled Procedure Step Expiration DateTime	(0040,4008)	N	N	X						K	C			
Scheduled Procedure Step ID	(0040,0009)	N	Y	X										
Scheduled Procedure Step Location	(0040,0011)	N	N	X			K							
Scheduled Procedure Step Modification	(0040,4010)	N	N	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
DateTime														
Scheduled Procedure Step Start Date	(0040,0002)	N	N	X						K	C			
Scheduled Procedure Step Start DateTime	(0040,4005)	N	N	X						K	C			
Scheduled Procedure Step Start Time	(0040,0003)	N	N	X						K	C			
Scheduled Station AE Title	(0040,0001)	N	N	X			C							
Scheduled Station AE Title	(0040,0001)	N	N	X			K							
Scheduled Station Geographic Location Code Sequence	(0040,4027)	N	N	X			K							
Scheduled Station Name	(0040,0010)	N	N	X			K							
Scheduled Station Name Code Sequence	(0040,4025)	N	N	X			K							
Scheduled Study Location	(0032,1020)	Y	N	X			K							
Scheduled Study Location AE Title	(0032,1021)	Y	N	X			C							
Scheduled Study Location AE Title	(0032,1021)	Y	N	X			K							
Scheduled Study Start Date	(0032,1000)	Y	N	X						K	C			
Scheduled Study Start Time	(0032,1001)	Y	N	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Scheduled Study Stop Date	(0032,1010)	Y	N	X						K	C			
Scheduled Study Stop Time	(0032,1011)	Y	N	X						K	C			
Selector AE Value	(0072,005E)	N	Y	D			C							
Selector AS Value	(0072,005F)	N	Y	D					K					
Selector DA Value	(0072,0061)	N	Y	D						K	C			
Selector DT Value	(0072,0063)	N	Y	D						K	C			
Selector LO Value	(0072,0066)	N	Y	D								C		
Selector LT Value	(0072,0068)	N	Y	D								C		
Selector OB Value	(0072,0065)	N	Y	D										
Selector PN Value	(0072,006A)	N	Y	D										
Selector SH Value	(0072,006C)	N	Y	D								C		
Selector ST Value	(0072,006E)	N	Y	D								C		
Selector TM Value	(0072,006B)	N	Y	D						K	C			
Selector UN Value	(0072,006D)	N	Y	D										
Selector UR Value	(0072,0071)	N	Y	D										
Selector UT Value	(0072,0070)	N	Y	D								C		
Series Date	(0008,0021)	N	Y	X/D						K	C			
Series Description	(0008,103E)	N	Y	X								C		
Series Instance UID	(0020,000E)	N	Y	U		K								
Series Time	(0008,0031)	N	Y	X/D						K	C			
Service Episode Description	(0038,0062)	N	Y	X								C		
Service Episode ID	(0038,0060)	N	Y	X										
Setup Technique Description	(300A,01B2)	N	Y	X								C		

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Shielding Device Description	(300A,01A6)	N	Y	X								C		
Slide Identifier	(0040,06FA)	Y	N	X										
Smoking Status	(0010,21A0)	N	N	X					K					
SOP Authorization DateTime	(0100,0420)	N	Y	X						K	C			
SOP Instance UID	(0008,0018)	N	Y	U		K								
Source Conceptual Volume UID	(3010,0015)	N	Y	U		K								
Source End DateTime	(0018,936A)	N	Y	D						K	C			
Source Frame of Reference UID	(0064,0003)	N	Y	U		K								
Source Identifier	(0034,0005)	N	Y	D										
Source Image Sequence	(0008,2112)	N	Y	X/Z/U*		K								
Source Manufacturer	(300A,0216)	N	Y	X			K							
Source of Previous Values	(0400,0564)	N	Y	Z				K						
Source Serial Number	(3008,0105)	N	Y	X/Z			K							
Source Start DateTime	(0018,9369)	N	Y	D						K	C			
Source Strength Reference Date	(300A,022C)	N	Y	D						K	C			
Source Strength Reference Time	(300A,022E)	N	Y	D						K	C			
Special Needs	(0038,0050)	N	N	X					C					
Specimen Accession Number	(0040,050A)	Y	N	X										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Specimen Detailed Description	(0040,0602)	N	Y	X								C		
Specimen Identifier	(0040,0551)	N	Y	D										
Specimen Preparation Sequence	(0040,0610)	N	Y	Z									C	
Specimen Short Description	(0040,0600)	N	Y	X								C		
Specimen UID	(0040,0554)	N	Y	U		K								
Start Acquisition DateTime	(0018,9516)	N	Y	X/D						K	C			
Station AE Title	(0008,0055)	N	Y	X			C							
Station Name	(0008,1010)	N	Y	X/Z/D			K							
Storage Media File-set UID	(0088,0140)	N	Y	U		K								
Structure Set Date	(3006,0008)	N	Y	Z						K	C			
Structure Set Description	(3006,0006)	N	Y	X								C		
Structure Set Label	(3006,0002)	N	Y	D								C		
Structure Set Name	(3006,0004)	N	Y	X								C		
Structure Set Time	(3006,0009)	N	Y	Z						K	C			
Study Arrival Date	(0032,1040)	Y	N	X						K	C			
Study Arrival Time	(0032,1041)	Y	N	X						K	C			
Study Comments	(0032,4000)	Y	N	X								C		
Study Completion Date	(0032,1050)	Y	N	X						K	C			
Study Completion Time	(0032,1051)	Y	N	X						K	C			
Study Date	(0008,0020)	N	Y	Z						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Study Description	(0008,1030)	N	Y	X								C		
Study ID	(0020,0010)	N	Y	Z										
Study ID Issuer	(0032,0012)	Y	N	X										
Study Instance UID	(0020,000D)	N	Y	U		K								
Study Read Date	(0032,0034)	Y	N	X						K	C			
Study Read Time	(0032,0035)	Y	N	X						K	C			
Study Time	(0008,0030)	N	Y	Z						K	C			
Study Verified Date	(0032,0032)	Y	N	X						K	C			
Study Verified Time	(0032,0033)	Y	N	X						K	C			
Substance Administration DateTime	(0044,0010)	N	N	X						K	C			
Synchronization Frame of Reference UID	(0020,0200)	N	Y	U		K								
Target UID	(0018,2042)	N	Y	U		K								
Telephone Number (Trial)	(0040,A354)	Y	N	X										
Template Extension Creator UID	(0040,DB0D)	Y	N	U		K								
Template Extension Organization UID	(0040,DB0C)	Y	N	U		K								
Template Local Version	(0040,DB07)	Y	N	X						K	C			
Template Version	(0040,DB06)	Y	N	X						K	C			
Text Comments	(4000,4000)	Y	N	X										
Text String	(2030,0020)	N	N	X										
Time	(0040,A122)	N	Y	D						K	C			
Time of Document or	(0040,A112)	Y	N	X						K	C			

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Verbal Transaction (Trial)														
Time of Last Calibration	(0018,1201)	N	Y	X			K			K	C			
Time of Last Detector Calibration	(0018,700E)	N	Y	X/D			K			K	C			
Time of Secondary Capture	(0018,1014)	N	Y	X						K	C			
Timezone Offset From UTC	(0008,0201)	N	Y	X						K	C			
Topic Author	(0088,0910)	Y	N	X										
Topic Keywords	(0088,0912)	Y	N	X										
Topic Subject	(0088,0906)	Y	N	X										
Topic Title	(0088,0904)	Y	N	X										
Tracking UID	(0062,0021)	N	Y	U		K								
Transaction UID	(0008,1195)	N	N	U		K								
Transducer Identification Sequence	(0018,5011)	N	Y	X			K							
Treatment Control Point Date	(3008,0024)	N	Y	D						K	C			
Treatment Control Point Time	(3008,0025)	N	Y	D						K	C			
Treatment Date	(3008,0250)	N	Y	X/D						K	C			
Treatment Machine Name	(300A,00B2)	N	Y	X/Z			K							
Treatment Position Group Label	(300A,0608)	N	Y	D								C		
Treatment Position Group UID	(300A,0609)	N	Y	U		K								

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Treatment Session UID	(300A,0700)	N	Y	U		K								
Treatment Site	(3010,0077)	N	Y	X/D								C		
Treatment Sites	(300A,000B)	Y	N	X								C		
Treatment Technique Notes	(3010,007A)	N	Y	Z								C		
Treatment Time	(3008,0251)	N	Y	X/D						K	C			
Treatment Tolerance Violation DateTime	(300A,0736)	N	Y	D						K	C			
Treatment Tolerance Violation Description	(300A,0734)	N	Y	D								C		
UDI Sequence	(0018,100A)	N	Y	X			K							
UID	(0040,A124)	N	Y	U										
Unique Device Identifier	(0018,1009)	N	Y	X			K							
User Content Label	(3010,0033)	N	Y	D								C		
User Content Long Label	(3010,0034)	N	Y	D								C		
Verbal Source (Trial)	(0040,A352)	Y	N	X										
Verbal Source Identifier Code Sequence (Trial)	(0040,A358)	Y	N	X										
Verification DateTime	(0040,A030)	N	Y	D						K	C			
Verifying Observer Identification Code Sequence	(0040,A088)	N	Y	Z										
Verifying Observer Name	(0040,A075)	N	Y	D										

Attribute Name	Tag	Retd. (from PS3.6)	In Std. Comp. IOD (from PS3.3)	Basic Prof.	Rtn. Safe Priv. Opt.	Rtn. UIDs Opt.	Rtn. Dev. Id. Opt.	Rtn. Inst. Id. Opt.	Rtn. Pat. Chars. Opt.	Rtn. Long. Full Dates Opt.	Rtn. Long. Modif. Dates Opt.	Clean Desc. Opt.	Clean Struct. Cont. Opt.	Clean Graph. Opt.
Verifying Observer Sequence	(0040,A073)	N	Y	D										
Verifying Organization	(0040,A027)	N	Y	D										
Visit Comments	(0038,4000)	N	N	X								C		
Waveform Filter Description	(003A,0329)	N	Y	X								C		
X-Ray Detector ID	(0018,9371)	N	Y	D			K							
X-Ray Detector Label	(0018,9373)	N	Y	X			K							
X-Ray Source ID	(0018,9367)	N	Y	D			K							

E.1.2 Re-identifier

An Application may claim conformance to the Basic Application Level Confidentiality Profile as a re-identifier if it is capable of removing the protection from a protected SOP instance given that the recipient keys required for the decryption of one or more of the Encrypted Content (0400,0520) Attributes within the Encrypted Attributes Sequence (0400,0500) of the SOP instance are available. Removal of protection in this context is defined as the following process:

1. The application shall decrypt, using its recipient key, one instance of the Encrypted Content (0400,0520) Attribute within the Encrypted Attributes Sequence (0400,0500) and decode the resulting block of bytes into a DICOM dataset using the Transfer Syntax specified in the Encrypted Content Transfer Syntax UID (0400,0510). Re-identifiers claiming conformance to this Profile shall be capable of decrypting the Encrypted Content using either AES or Triple-DES in all possible key lengths specified in this Profile.

   Note

   If the application is able to decode more than one instance of the Encrypted Content (0400,0520) Attribute within the Encrypted Attributes Sequence (0400,0500), it is at the discretion of the application to choose any one of them.

2. The application shall move all Attributes contained in the single item of the Modified Attributes Sequence (0400,0550) of the decoded dataset into the main dataset, replacing "dummy value" Attributes that may be present in the main dataset.

   Note

1. *Re-identification does not imply a complete reconstruction of the original SOP Instance, since it is not required that all Attributes being protected be part of the Encrypted Attributes Data Set. If the original UIDs are part of the Encrypted Attributes Data Set, they might be usable to gain access to the original, unprotected SOP Instance.*

2. *The presence of an encrypted Data Set that cannot be decrypted indicates that some or all of the Attribute Values in the message may not be real (they are dummies). Therefore, the recipient must not assume that any value in the message is diagnostically relevant.*

3. The Attribute Patient Identity Removed (0012,0062) shall be replaced or added to the dataset with a value of NO and De-identification Method (0012,0063) and De-identification Method Code Sequence (0012,0064) shall be removed.

E.1.3 Conformance Requirements

The Conformance Statement of an application that claims conformance to the Basic Application Level Confidentiality Profile shall describe:

- which Attributes are removed during protection;
- which Attributes are replaced by dummy values and how the dummy values are generated;
- which Attributes are included in Encrypted Attributes Data Sets for later re-identification, and any pertinent details about how keys are selected for performing the encryption;
- the scope across which the application is able to ensure referential integrity of replacement values for references such as SOP Instance UID, Frame of Reference UID, etc. if multiple SOP instances are protected (e.g., across multiple Studies, consistent replacement if the same Study processed more than once, etc.);
- which Attributes and Attribute Values are inserted during protection of a SOP instance;
- which Transfer Syntaxes are supported for encoding/decoding of the Encrypted Attributes Data Set;
- which Options are supported;
- any additional restrictions (e. g. key sizes for public keys).
