DICOM Change Proposal

STATUS	Assigned
Date of Last Update	2025-04-13
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Submission Date	2025-02-26

Change Number	CP-2528
Log Summary: Add missing Attributes to Scheduled/Performed Protocol Code Sequence in MPPS tables	
Name of Standard PS3.3, PS3.4	

Rationale for Change:

With CP-1479, various Macro tables were introduced to PS3.4 that define the content of Code Sequences, e.g. for the MPPS service. Unfortunately, this CP also removed the rows "All other Attributes of the Scheduled Protocol Code Sequence" and "All other Attributes of the Performed Protocol Code Sequence" from the main MPPS table (PS3.4 Table F.7.2-1), so that it is no longer consistent with Table C.4-15 from PS3.3. That means, the Protocol Context Sequence (0040,0440) Attribute is now missing, so that it is unclear what the requirements for an SCU and SCP are. It is, therefore, proposed to re-add the "All other Attributes…" statements to PS3.4 Table F.7.2-1 and, in one case, also change the value in the "Usage N-SET (SCU/SCP)" column for this row to something that seems more appropriate.

The same problem can be found in PS3.4 Table F.8.2-1, where it should also be fixed.

Furthermore, it is proposed to add a separate table section for the Billing and Material Management Code Module to both tables, so that it is more visible.

Change Wording:

Modify PS3.3 Section C.4.10 as indicated

5   *(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):*

C.4.10 Scheduled Procedure Step Module

Table C.4-10. Scheduled Procedure Step Module Attributes

Attribute Name	Tag	Attribute Description
Scheduled Procedure Step Sequence	(0040,0100)	One or more Scheduled Procedure Steps for one Requested Procedure.
>Scheduled Station AE Title	(0040,0001)	The AE title of the modality on which the Scheduled Procedure Step is scheduled to be performed.
>Scheduled Station Name	(0040,0010)	An institution defined name for the modality on which the Scheduled Procedure Step is scheduled to be performed.
>Scheduled Procedure Step Location	(0040,0011)	The location at which the Procedure Step is scheduled to be performed.

Attribute Name	Tag	Attribute Description
>Referenced Defined Protocol Sequence	(0018,990C)	Defined Procedure Protocol Instance(s) specified for the Scheduled Procedure Step.
>>Referenced SOP Class UID	(0008,1150)	Uniquely identifies the referenced SOP Class.
>>Referenced SOP Instance UID	(0008,1155)	Uniquely identifies the referenced SOP Instance.
>Referenced Performed Protocol Sequence	(0018,990D)	Prior Performed Procedure Protocol Instance(s) that is to be repeated for the Scheduled Procedure Step.
>>Referenced SOP Class UID	(0008,1150)	Uniquely identifies the referenced SOP Class.
>>Referenced SOP Instance UID	(0008,1155)	Uniquely identifies the referenced SOP Instance.
>Scheduled Procedure Step Start Date	(0040,0002)	Date on which the Scheduled Procedure Step is scheduled to start.
>Scheduled Procedure Step Start Time	(0040,0003)	Time at which the Scheduled Procedure Step is scheduled to start.
>Scheduled Procedure Step End Date	(0040,0004)	Date on which the Scheduled Procedure Step is scheduled to end.
>Scheduled Procedure Step End Time	(0040,0005)	Time at which the Scheduled Procedure Step is scheduled to end.
>Scheduled Performing Physician's Name	(0040,0006)	Name of the physician scheduled to administer the Scheduled Procedure Step.
>Scheduled Performing Physician Identification Sequence	(0040,000B)	Identification of the physician scheduled to administer the Scheduled Procedure Step. Only a single Item shall be included in this Sequence.
>>*Include Table 10-1 "Person Identification Macro Attributes"*		
>Scheduled Procedure Step Description	(0040,0007)	Institution-generated description or classification of the Scheduled Procedure Step to be performed. Note The purpose of this Attribute is to store a description or classification that is used at a local level (e.g., a hospital or a managed care network), and this description need not comply to an accepted standard.
>Scheduled Protocol Code Sequence	(0040,0008)	Sequence describing the Scheduled Protocol following a specified coding scheme. One or more Items shall be included in this Sequence.
>>*Include Table 8.8-1 "Code Sequence Macro Attributes"*		*No Baseline CID is defined.*
>>Protocol Context Sequence	(0040,0440)	Sequence that specifies the context for the Scheduled Protocol Code Sequence (0040,0008) Item. One or more Items shall be included in this Sequence. See Section C.4.10.1.
>>>*Include Table 10-2 "Content Item Macro Attributes"*		*No Baseline TID is defined.*

Commented [JR1]: Formatting has been changed to use three separate paragraphs (see below for reference).

Attribute Name	Tag	Attribute Description
>>>Content Item Modifier Sequence	(0040,0441)	Sequence that specifies modifiers for a Protocol Context Content Item. One or more Items shall be included in this Sequence. See Section C.4.10.1.
>>>>*Include Table 10-2 "Content Item Macro Attributes"*		*No Baseline TID is defined.*
>Scheduled Procedure Step ID	(0040,0009)	Identifier that identifies the Scheduled Procedure Step.
>Scheduled Procedure Step Status	(0040,0020)	A Real World condition that may affect the selection of the Scheduled Procedure Step. Defined Terms: **SCHEDULED** Procedure Step scheduled **ARRIVED** Patient is available for the Scheduled Procedure Step **READY** all Patient and other necessary preparation for this step has been completed **STARTED** at least one Performed Procedure Step has been created that references this Scheduled Procedure Step **DEPARTED** Patient is no longer available for the Scheduled Procedure Step
>Comments on the Scheduled Procedure Step	(0040,0400)	User-defined comments on the Scheduled Procedure Step. Note The Comments Attribute is intended to transmit non-structured information, which can be displayed to the operator of the Modality.
>Modality	(0008,0060)	Type of device, process or method for which the Scheduled Procedure Step is scheduled. See Section C.7.3.1.1.1 for Defined Terms.
>Requested Contrast Agent	(0032,1070)	Contrast agent requested for use in the Scheduled Procedure Step.
>Pre-Medication	(0040,0012)	Medication to be administered at the beginning of the Scheduled Procedure Step, e.g., Nuclear Medicine radiopharmaceutical.
>Anatomical Orientation Type	(0010,2210)	The anatomical orientation type appropriate for this Patient. Enumerated Values: **BIPED** **QUADRUPED**
>Treatment Session UID	(300A,0700)	A unique identifier of the RT Treatment Session to which Instances created during this Procedure Step will belong.
Scheduled Specimen Sequence	(0040,0500)	Sequence of Items identifying specimens to be imaged in the identified Scheduled Procedure Step(s), with their characteristics.

Attribute Name	Tag	Attribute Description
>Include Table C.7.6.22-2 "Specimen Macro Attributes"		
Barcode Value	(2200,0005)	Barcode interpreted from a scanned label.
		Note
		1. In the case of a scanned patient label, this may be the same as Patient ID (0010,0020), but it is included in the Scheduled Procedure Step Module rather than the Patient Identification Module since barcodes may also be used to identify lower level entities and/or different forms of patient identifier may be in use.
		2. In the case of a scanned slide label, this may be the same as Container Identifier (0040,0512).

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> ***Modify PS3.3 Section C.4.10.1 as indicated***
>
> *(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):*

C.4.10.1 Protocol Context Sequence

The Protocol Context Sequence (0040,0440) allows the specification of parameters that further qualify the **scheduled** protocol, provided through a set of generic name/value pairs of context Content Items.

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    Note

    This allows the specification of clinical, acquisition, or procedural qualifiers for the **scheduled** protocol, such as a specific body part, imaging technique, or parameters of a preparatory event (e.g., radionuclide injection). Specific uses of this Sequence may be documented in a Template defined in accordance with PS3.16.

Commented [JR2]: The Protocol Context Sequence (0040,0440) is used for both scheduled and performed procedures, see e.g. PS3.3 Section C.4.10 and PS3.3 Section C.4.15 in combination with PS3.4 Section F.7.2.1.1. It is, therefore, proposed to generalize the description in this section by removing the word "scheduled" (two occurrences).

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> ***For reference PS3.3 Section C.4.15 (unchanged)***

C.4.15 Image Acquisition Results Module

Table C.4-15 specifies the Attributes of the Image Acquisition Results Module, which describe the acquisition of images during the performance of the Procedure Step and that provide references to the Series, Images and other Composite SOP Instances associated with this Modality Performed Procedure Step.

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Table C.4-15. Image Acquisition Results Module Attributes

Attribute Name	Tag	Attribute Description
Modality	(0008,0060)	Type of device, process or method that originally acquired the data used to create the Instances associated with this Modality Performed Procedure Step.
		See Section C.7.3.1.1.1 for Defined Terms.
		Note
		A Modality value in the created SOP Instances may be different from the MPPS Modality value. For example, multiple Series may have been created during the MPPS (images, waveforms, softcopy presentation states and/or structured reports) with SOP Instances in different Series having different modality values.

Attribute Name	Tag	Attribute Description
Study ID	(0020,0010)	User or equipment generated Study Identifier.
Performed Protocol Code Sequence	(0040,0260)	Sequence describing the Protocol performed for this Procedure Step. Zero or more Items shall be included in this Sequence.
>Include Table 8.8-1 "Code Sequence Macro Attributes"		No Baseline CID is defined.
>Protocol Context Sequence	(0040,0440)	Sequence that specifies the context for the Performed Protocol Code Sequence (0040,0260) Item. One or more Items shall be included in this Sequence. See Section C.4.10.1.
>>Include Table 10-2 "Content Item Macro Attributes"		No Baseline TID is defined.
>>Content Item Modifier Sequence	(0040,0441)	Sequence that specifies modifiers for a Protocol Context Content Item. One or more Items shall be included in this Sequence. See Section C.4.10.1.
>>>Include Table 10-2 "Content Item Macro Attributes"		No Baseline TID is defined.
Performed Series Sequence	(0040,0340)	Attributes of the Series that comprise this Modality Performed Procedure Step. Zero or more Items shall be included in this Sequence.
>Performing Physician's Name	(0008,1050)	Name of the physician(s) administering this Series.
>Performing Physician Identification Sequence	(0008,1052)	Identification of the physician(s) administering the Series. One or more Items shall be included in this Sequence. If more than one Item, the number and order shall correspond to the value of Performing Physician's Name (0008,1050), if present.
>>Include Table 10-1 "Person Identification Macro Attributes"		
>Operators' Name	(0008,1070)	Name(s) of the operator(s) who supporting this Series.
>Operator Identification Sequence	(0008,1072)	Identification of the operator(s) supporting the Series. One or more Items shall be included in this Sequence. If more than one Item, the number and order shall correspond to the value of Operators' Name (0008,1070), if present.
>>Include Table 10-1 "Person Identification Macro Attributes"		
>Protocol Name	(0018,1030)	User-defined description of the conditions under which the Series was performed. Note This Attribute conveys Series-specific protocol identification and may or may not be identical to the one presented in the Performed Protocol Code Sequence (0040,0260).

Attribute Name	Tag	Attribute Description
>Series Instance UID	(0020,000E)	Unique Identifier of the Series.
>Series Description	(0008,103E)	Description of the Series.
>Series Description Code Sequence	(0008,103F)	A coded description of the Series. Only a single Item shall be included in this Sequence.
>>*Include Table 8.8-1 "Code Sequence Macro Attributes"*		*No Baseline CID is defined.*
>Retrieve AE Title	(0008,0054)	Title of the DICOM Application Entity where the Images and other Composite SOP Instances in this Series may be retrieved on the network. Note The duration for which this location remains valid is unspecified.
>Archive Requested	(0040,A494)	The Instances in this Series are expected to be archived in the long term archive. Enumerated Values: **NO** **YES**
>Referenced Image Sequence	(0008,1140)	A Sequence that provides reference to Composite SOP Instances created during the acquisition of the procedure step. Zero or more Items shall be included in this Sequence. Note The use of Referenced Image Sequence is historical, and in this context it allows the reference of any Composite SOP Instance.
>>*Include Table 10-11 "SOP Instance Reference Macro Attributes"*		
>>Container Identifier	(0040,0512)	The identifier for the container that contains the specimen(s) imaged.
>>Specimen Description Sequence	(0040,0560)	Sequence of identifiers and detailed description of the specimen(s) imaged. One or more Items shall be included in this Sequence.
>>>Specimen Identifier	(0040,0551)	A departmental information system identifier for the Specimen.
>>>Specimen UID	(0040,0554)	Unique identifier for the Specimen.
>Referenced Non-Image Composite SOP Instance Sequence	(0040,0220)	Uniquely identifies Instances, other than images, of any SOP Class that conforms to the DICOM Composite IOD Information Model, such as Waveforms, Presentation States or Structured Reports, created during the acquisition of the procedure step, and that are not referenced in Referenced Image Sequence (0008,1140).

Attribute Name	Tag	Attribute Description
		Zero or more Items shall be included in this Sequence.
>>Include Table 10-11 "SOP Instance Reference Macro Attributes"		

Modify PS3.4 Section F.7.2.1.1 as indicated

(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):

F.7.2.1.1 Modality Performed Procedure Step Subset Specification

The Application Entity that claims conformance to this SOP Class as an SCU must provide all Required Attributes as specified in Table F.7.2-1. Optional Attributes maintained by the SCP may be provided as well. The Application Entity that claims conformance as an SCP to this SOP Class shall support the subset of the Modality Performed Procedure Step Attributes specified in Table F.7.2-1.

[…]

Table F.7.2-1. Modality Performed Procedure Step SOP Class N-CREATE, N-SET and Final State Attributes

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Usage Final State (see Note 1)
Specific Character Set	(0008,0005)	1C/1C (Required if an extended or replacement character set is used)	1C/1C (Required if an extended or replacement character set is used in an Attribute that is set)	
Performed Procedure Step Relationship				
Scheduled Step Attributes Sequence	(0040,0270)	1/1	Not allowed	
>Study Instance UID	(0020,000D)	1/1	Not allowed	
>Referenced Study Sequence	(0008,1110)	2/2	Not allowed	
>>Referenced SOP Class UID	(0008,1150)	1/1	Not allowed	
>>Referenced SOP Instance UID	(0008,1155)	1/1	Not allowed	
>Accession Number	(0008,0050)	2/2	Not allowed	
>Issuer of Accession Number Sequence	(0008,0051)	3/3	Not allowed	
>>Local Namespace Entity ID	(0040,0031)	1C/1C Required if Universal Entity ID (0040,0032) is not present; may be present otherwise	Not allowed	

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Usage Final State (see Note 1)
>>Universal Entity ID	(0040,0032)	1C/1C Required if Local Namespace Entity ID (0040,0031) is not present; may be present otherwise.	Not allowed	
>>Universal Entity ID Type	(0040,0033)	1C/1C Required if Universal Entity ID (0040,0032) is present.	Not allowed	
>Placer Order Number/Imaging Service Request	(0040,2016)	3/3	Not allowed	
>Order Placer Identifier Sequence	(0040,0026)	3/3	Not allowed	
>>Local Namespace Entity ID	(0040,0031)	1C/1C Required if Universal Entity ID (0040,0032) is not present; may be present otherwise	Not allowed	
>>Universal Entity ID	(0040,0032)	1C/1C Required if Local Namespace Entity ID (0040,0031) is not present; may be present otherwise.	Not allowed	
>>Universal Entity ID Type	(0040,0033)	1C/1C Required if Universal Entity ID (0040,0032) is present.	Not allowed	
>Filler Order Number/Imaging Service Request	(0040,2017)	3/3	Not allowed	
>Order Filler Identifier Sequence	(0040,0027)	3/3	Not allowed	
>>Local Namespace Entity ID	(0040,0031)	1C/1C Required if Universal Entity ID (0040,0032) is not present; may be present otherwise	Not allowed	
>>Universal Entity ID	(0040,0032)	1C/1C Required if Local Namespace Entity ID (0040,0031) is not	Not allowed	

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Usage Final State (see Note 1)
		present; may be present otherwise.		
>>Universal Entity ID Type	(0040,0033)	1C/1C Required if Universal Entity ID (0040,0032) is present.	Not allowed	
>Requested Procedure ID	(0040,1001)	2/2	Not allowed	
>Requested Procedure Code Sequence	(0032,1064)	3/3	Not allowed	
>>Include Table F.7.2-1a "Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET"				
>Requested Procedure Description	(0032,1060)	2/2	Not allowed	
>Scheduled Procedure Step ID	(0040,0009)	2/2	Not allowed	
>Scheduled Procedure Step Description	(0040,0007)	2/2	Not allowed	
>Scheduled Protocol Code Sequence	(0040,0008)	2/2	Not allowed	
>>Include Table F.7.2-1a "Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET"				
>>All other Attributes of the Scheduled Protocol Code Sequence		**3/3**	**Not allowed**	
Patient's Name	(0010,0010)	2/2	Not allowed	
Patient ID	(0010,0020)	2/2	Not allowed	
Issuer of Patient ID	(0010,0021)	3/3	Not allowed	
Issuer of Patient ID Qualifiers Sequence	(0010,0024)	3/3	Not allowed	
>Universal Entity ID	(0040,0032)	3/3	Not allowed	
>Universal Entity ID Type	(0040,0033)	1C/1C Required if Universal Entity ID (0040,0032) is present.	Not allowed	
>All other Attributes of the Issuer of Patient ID Qualifiers Sequence		3/3	Not allowed	
Other Patient IDs Sequence	(0010,1002)	3/3	Not allowed	
>Patient ID	(0010,0020)	3/3	Not allowed	

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Usage Final State (see Note 1)
>Issuer of Patient ID	(0010,0021)	3/3	Not allowed	
>Issuer of Patient ID Qualifiers Sequence	(0010,0024)	3/3	Not allowed	
>>*All other Attributes of the Issuer of Patient ID Qualifiers Sequence*		3/3	Not allowed	
>Type of Patient ID	(0010,0022)	3/3	Not allowed	
Patient's Birth Date	(0010,0030)	2/2	Not allowed	
Patient's Sex	(0010,0040)	2/2	Not allowed	
Referenced Patient Sequence	(0008,1120)	2/2	Not allowed	
>Referenced SOP Class UID	(0008,1150)	1/1	Not allowed	
>Referenced Instance UID	(0008,1155)	1/1	Not allowed	
Admission ID	(0038,0010)	3/3	Not Allowed	
Issuer of Admission ID Sequence	(0038,0014)	3/3	Not allowed	
>Local Namespace Entity ID	(0040,0031)	1C/1C Required if Universal Entity ID (0040,0032) is not present; may be present otherwise	Not allowed	
>Universal Entity ID	(0040,0032)	1C/1C Required if Local Namespace Entity ID (0040,0031) is not present; may be present otherwise.	Not allowed	
>Universal Entity ID Type	(0040,0033)	1C/1C Required if Universal Entity ID (0040,0032) is present.	Not allowed	
Service Episode ID	(0038,0060)	3/3	Not allowed	
Issuer of Service Episode ID Sequence	(0038,0064)	3/3	Not allowed	
>Local Namespace Entity ID	(0040,0031)	1C/1C Required if Universal Entity ID (0040,0032) is not present; may be present otherwise	Not allowed	

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Usage Final State (see Note 1)
>Universal Entity ID	(0040,0032)	1C/1C Required if Local Namespace Entity ID (0040,0031) is not present; may be present otherwise.	Not allowed	
>Universal Entity ID Type	(0040,0033)	1C/1C Required if Universal Entity ID (0040,0032) is present.	Not allowed	
Service Episode Description	(0038,0062)	3/3	Not allowed	
Performed Procedure Step Information				
Performed Procedure Step ID	(0040,0253)	1/1	Not allowed	
Performed Station AE Title	(0040,0241)	1/1	Not allowed	
Performed Station Name	(0040,0242)	2/2	Not allowed	
Performed Location	(0040,0243)	2/2	Not allowed	
Performed Procedure Step Start Date	(0040,0244)	1/1	Not allowed	
Performed Procedure Step Start Time	(0040,0245)	1/1	Not allowed	
Performed Procedure Step Status	(0040,0252)	1/1	3/1	
Performed Procedure Step Description	(0040,0254)	2/2	3/2	
Performed Procedure Type Description	(0040,0255)	2/2	3/2	
Procedure Code Sequence	(0008,1032)	2/2	3/2	
>Include Table F.7.2-1e "Modality Performed Procedure Step Enhanced Code Value Macro with N-SET, Optional Meaning"				
Reason For Performed Procedure Code Sequence	(0040,1012)	3/3	3/3	
>Include Table F.7.2-1c "Modality Performed Procedure Step Enhanced Code Value Macro with N-SET, Mandatory Meaning"				
Performed Procedure Step End Date	(0040,0250)	2/2	3/1	1
Performed Procedure Step End Time	(0040,0251)	2/2	3/1	1
Comments on the Performed Procedure Step	(0040,0280)	3/3	3/3	

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Usage Final State (see Note 1)	
Performed Procedure Step Discontinuation Reason Code Sequence	(0040,0281)	3/3	3/3		
>Include Table F.7.2-1c "Modality Performed Procedure Step Enhanced Code Value Macro with N-SET, Mandatory Meaning"					
Image Acquisition Results					
Modality	(0008,0060)	1/1	Not allowed		
Study ID	(0020,0010)	2/2	Not allowed		
Performed Protocol Code Sequence	(0040,0260)	2/2	3/2		
>Include Table F.7.2-1e "Modality Performed Procedure Step Enhanced Code Value Macro with N-SET, Optional Meaning"					
>All other Attributes of the Performed Protocol Code Sequence		**3/3**	3/3		Commented [JR3]: This used to be "Not allowed" until the "Include Table F.7.2-1e" was introduced with DICOM 2020a (based on CP-1479), but wouldn't "3/3" make more sense?
Performed Series Sequence	(0040,0340)	2/2	3/1	1 (see ~~n~~Note 2)	
>Performing Physician's Name	(0008,1050)	2/2	2/2	2	
>Protocol Name	(0018,1030)	1/1	1/1	1	
>Operators' Name	(0008,1070)	2/2	2/2	2	
>Series Instance UID	(0020,000E)	1/1	1/1	1	
>Series Description	(0008,103E)	2/2	2/2	2	
>Retrieve AE Title	(0008,0054)	2/2	2/2	2	
>Archive Requested	(0040,A494)	3/3	3/3		
>Referenced Image Sequence	(0008,1140)	2/2	2/2	See Section F.7.2.2.2	
>>Referenced SOP Class UID	(0008,1150)	1/1	1/1		
>>Referenced SOP Instance UID	(0008,1155)	1/1	1/1		
>>Container Identifier	(0040,0512)	3/3	3/3		
>>Specimen Description Sequence	(0040,0560)	3/3	3/3		
>>>Specimen Identifier	(0040,0551)	1/1	1/1		
>>>Specimen UID	(0040,0554)	1/1	1/1		

Attribute Name	Tag	Usage N-CREATE (SCU/SCP)	Usage N-SET (SCU/SCP)	Usage Final State (see Note 1)
>Referenced Non-Image Composite SOP Instance Sequence	(0040,0220)	2/2	2/2	See Section F.7.2.2.2
>>Referenced SOP Class UID	(0008,1150)	1/1	1/1	
>>Referenced SOP Instance UID	(0008,1155)	1/1	1/1	
>*All other Attributes of the Performed Series Sequence*		3/3	3/3	
Billing and Material Management Code				
*All ~~other~~ Attributes ~~of~~**from** the Billing and Material Management Code Module*		3/3	3/3	

Note

40   1.   The requirement for the final state is that which applies at the time that the Performed Procedure Step Status (0040,0252) is N-SET to a value of COMPLETED or DISCONTINUED, as described in Section F.7.2.2.2. It is only described if it is different from the SCP requirement for the N-CREATE.

2.   The Performed Series Sequence (0040,0340) may not be empty (zero length) at the time that the Performed Procedure Step Status (0040,0252) is N-SET to a value of COMPLETED or DISCONTINUED.
45   In other words a Series must exist for every Performed Procedure Step, though it may contain no Images or Non-Image Composite objects, if none were created, as described in Section F.7.2.2.2.

3.   Attributes (0040,1006) Placer Order Number/Procedure and (0040,1007) Filler Order Number/Procedure were previously defined in DICOM. They are now retired (see PS3.3-1998).

4.   Attributes (0040,2006) and (0040,2007) were previously defined in DICOM. They are now retired (see
50   PS3.3-1998).

5.   Only Attributes that are specified in a SOP Instance at N-CREATE may later be updated through the N-SET. If an SCU wishes to use the PPS Discontinuation Reason Code Sequence (0040,0281), it must create that Attribute (zero-length) during N-CREATE.

6.   The Radiation Dose Module was previously defined in DICOM. This is now retired (see PS3.3-2017c).
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Modify PS3.4 Section F.8.2.1.1 as indicated

(changes to existing text are bold and underlined for additions and bold and struckthrough for removals):

F.8.2.1.1 Modality Performed Procedure Step Retrieve IOD Subset Specifications

The Application Entity that claims conformance to this SOP Class as an SCU may choose to interpret the Attribute
60   Values maintained by the SCP that the SCU receives via the operation of this SOP Class. The Application Entity that claims conformance as an SCP to this Modality Performed Procedure Step Retrieve SOP Class shall support the subset of the Modality Performed Procedure Step Retrieve Attributes specified in Table F.8.2-1.

Table F.8.2-1. Modality Performed Procedure Step Retrieve SOP Class N-GET Attributes

Attribute Name	Tag	Usage (SCU/SCP)
Specific Character Set	(0008,0005)	3/1C

Attribute Name	Tag	Usage (SCU/SCP)	
		(Required if an extended or replacement character set is used)	
Performed Procedure Step Relationship			
Scheduled Step Attributes Sequence	(0040,0270)	3/1	
>Study Instance UID	(0020,000D)	-/1	
>Referenced Study Sequence	(0008,1110)	-/2	
>>Referenced SOP Class UID	(0008,1150)	-/1	
>>Referenced SOP Instance UID	(0008,1155)	-/1	
>Accession Number	(0008,0050)	-/2	
>Issuer of Accession Number Sequence	(0008,0051)	-/3	
>>Local Namespace Entity ID	(0040,0031)	-/3	
>>Universal Entity ID	(0040,0032)	-/3	
>>Universal Entity ID Type	(0040,0033)	-/3	
>Placer Order Number/Imaging Service Request	(0040,2016)	-/3	
>Order Placer Identifier Sequence	(0040,0026)	-/3	
>>Local Namespace Entity ID	(0040,0031)	-/3	
>>Universal Entity ID	(0040,0032)	-/3	
>>Universal Entity ID Type	(0040,0033)	-/3	
>Filler Order Number/Imaging Service Request	(0040,2017)	-/3	
>Order Filler Identifier Sequence	(0040,0027)	-/3	
>>Local Namespace Entity ID	(0040,0031)	-/3	
>>Universal Entity ID	(0040,0032)	-/3	
>>Universal Entity ID Type	(0040,0033)	-/3	
>Requested Procedure Code Sequence	(0032,1064)	-/3	
>>*Include Table 8-3a "Enhanced SCU/SCP Coded Entry Macro with no SCU Support and no Matching Key Support"*			
>Requested Procedure Description	(0032,1060)	-/2	
>Requested Procedure ID	(0040,1001)	-/2	
>Scheduled Procedure Step ID	(0040,0009)	-/2	
>Scheduled Procedure Step Description	(0040,0007)	-/2	

Attribute Name	Tag	Usage (SCU/SCP)	
>Scheduled Protocol Code Sequence	(0040,0008)	-/2	
>>Include Table 8-5a "Enhanced SCU/SCP Coded Entry Macro with no SCU Support and Optional Meaning for SCP"			
>>All other Attributes of the Scheduled Protocol Code Sequence		**-/3**	
Patient's Name	(0010,0010)	3/2	
Patient ID	(0010,0020)	3/2	
Issuer of Patient ID	(0010,0021)	3/3	
Issuer of Patient ID Qualifiers Sequence	(0010,0024)	3/3	
>Universal Entity ID	(0040,0032)	3/3	
>Universal Entity ID Type	(0040,0033)	1C/1C Required if Universal Entity ID (0040,0032) is present.	
>All other Attributes of the Issuer of Patient ID Qualifiers Sequence		3/3	
Patient's Birth Date	(0010,0030)	3/2	
Patient's Sex	(0010,0040)	3/2	
Referenced Patient Sequence	(0008,1120)	3/2	
>Referenced SOP Class UID	(0008,1150)	-/1	
>Referenced Instance UID	(0008,1155)	-/1	
Admission ID	(0038,0010)	3/3	
Issuer of Admission ID Sequence	(0038,0014)	3/3	
>Local Namespace Entity ID	(0040,0031)	-/3	
>Universal Entity ID	(0040,0032)	-/3	
>Universal Entity ID Type	(0040,0033)	-/3	
Service Episode ID	(0038,0060)	3/3	
Issuer of Service Episode ID Sequence	(0038,0064)	3/3	
>Local Namespace Entity ID	(0040,0031)	-/3	
>Universal Entity ID	(0040,0032)	-/3	
>Universal Entity ID Type	(0040,0033)	-/3	
Service Episode Description	(0038,0062)	3/3	
Performed Procedure Step Information			

Attribute Name	Tag	Usage (SCU/SCP)	
Performed Station AE Title	(0040,0241)	3/1	
Performed Station Name	(0040,0242)	3/2	
Performed Location	(0040,0243)	3/2	
Performed Procedure Step Start Date	(0040,0244)	3/1	
Performed Procedure Step Start Time	(0040,0245)	3/1	
Performed Procedure Step ID	(0040,0253)	3/1	
Performed Procedure Step Status	(0040,0252)	3/1	
Performed Procedure Step End Date	(0040,0250)	3/2	
Performed Procedure Step End Time	(0040,0251)	3/2	
Performed Procedure Step Description	(0040,0254)	3/2	
Performed Procedure Type Description	(0040,0255)	3/2	
Procedure Code Sequence	(0008,1032)	3/2	
>Include Table 8-5a "Enhanced SCU/SCP Coded Entry Macro with no SCU Support and Optional Meaning for SCP"			
Comments on the Performed Procedure Step	(0040,0280)	3/3	
Performed Procedure Step Discontinuation Reason Code Sequence	(0040,0281)	3/2	
>Include Table 8-5a "Enhanced SCU/SCP Coded Entry Macro with no SCU Support and Optional Meaning for SCP"			
Image Acquisition Results			
Performed Series Sequence	(0040,0340)	3/2	
>Performing Physician's Name	(0008,1050)	-/2	
>Protocol Name	(0018,1030)	-/1	
>Operators' Name	(0008,1070)	-/2	
>Series Instance UID	(0020,000E)	-/1	
>Series Description	(0008,103E)	-/2	
>Retrieve AE Title	(0008,0054)	-/2	
>Referenced Image Sequence	(0008,1140)	-/2	
>>Referenced SOP Class UID	(0008,1150)	-/1	
>>Referenced SOP Instance UID	(0008,1155)	-/1	
>Referenced Non-Image Composite SOP Instance Sequence	(0040,0220)	-/2	

Attribute Name	Tag	Usage (SCU/SCP)	
>>Referenced SOP Class UID	(0008,1150)	-/1	
>>Referenced SOP Instance UID	(0008,1155)	-/1	
>*All other Attributes of the Performed Series Sequence*		-/3	
Modality	(0008,0060)	3/1	
Study ID	(0020,0010)	3/2	
Performed Protocol Code Sequence	(0040,0260)	3/2	
>*Include Table 8-5a "Enhanced SCU/SCP Coded Entry Macro with no SCU Support and Optional Meaning for SCP"*			
>All other Attributes of the Performed Protocol Code Sequence		**-/3**	
Billing and Material Management Code			
All ~~other~~ Attributes ~~of~~from the Billing and Material Management Code Module		3/3	

65   Note

1. Attributes (0040,1006) Placer Order Number/Procedure and (0040,1007) Filler Order Number/Procedure were previously defined in DICOM. They are now retired (see PS3.3-1998).

2. Attributes (0040,2006) and (0040,2007) were previously defined in DICOM. They are now retired (see PS3.3-1998).

70   3. The Radiation Dose Module was previously defined in DICOM. This is now retired (see PS3.3-2017c).