

## DICOM Correction Item

Correction Number		CP-772
Log Summary: Archive flag for GP-PPS		
Type of Modification	Name of Standard	
Addition	PS 3.3 2007 + CP 684	
Rationale for Correction		
<p>CP 684 added a flag for MPPS in the Image Acquisition Results Module within the Performed Series Sequence to convey explicitly whether or not the instances are expected to be archived in the long-term archive.</p> <p>This is equally useful in GP-PPS, though since the Performed Series Sequence is not used in that IOD, the attribute is added to a new Series Reference Macro that is factored out of the SOP Instance Reference Macro.</p>		
Sections of documents affected		
PS 3.3 10.4 and C.4.22		
Correction Wording:		

*Add new Series Reference Macro to Section 10.4:*

### 10.4 SERIES AND INSTANCE REFERENCE MACRO

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Table 10-X specifies the Attributes that reference a Series of SOP Instances.

**Table 10-X  
 SERIES REFERENCE MACRO ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
Series Instance UID	(0020,000E)	1	Unique identifier of a Series that is part of this Study and contains the referenced Composite Object(s).
Retrieve AE Title	(0008,0054)	3	Title of the DICOM Application Entity where the Composite Object(s) may be retrieved on the network.
Storage Media File-Set ID	(0088,0130)	3	The user or implementation specific human readable identifier that identifies the Storage Media on which the Composite Object (s) reside.
Storage Media File-Set UID	(0088,0140)	3	Uniquely identifies the Storage Media on which the Composite Object (s) reside.
Referenced SOP Sequence	(0008,1199)	1	References to Composite Object SOP Class/SOP Instance pairs that are part of the Study defined by Study Instance UID and the Series defined by Series Instance UID (0020,000E). One or more Items may be included in this sequence

>Referenced SOP Class UID	(0008,1150)	1	Uniquely identifies the referenced SOP Class.
>Referenced SOP Instance UID	(0008,1155)	1	Uniquely identifies the referenced SOP Instance.
>Purpose of Reference Code Sequence	(0040,A170)	3	Describes the purpose for which the reference is made. Zero or more Items may be included in this sequence.
>>Include 'Code Sequence Macro' Table 8.8-1		<i>Baseline Context ID may be specified in Macro invocation.</i>	
>Referenced Digital Signature Sequence	(0400,0402)	3	Sequence of references to Digital Signatures in the referenced SOP Instance. Zero or more Items may be present. Note: The Attributes in this sequence can be used to detect if the referenced SOP Instance has been altered.
>>Digital Signature UID	(0400,0100)	1	The Unique Identifier of a Digital Signature held in the referenced SOP Instance.
>>Signature	(0400,0120)	1	The Signature Value identified by the Digital Signature UID within the Referenced SOP Instance UID.
>Referenced SOP Instance MAC Sequence	(0400,0403)	3	A MAC Calculation from data in the referenced SOP Instance that can be used as a data integrity check. Note: This Attribute may be used in place of the Referenced Digital Signature Sequence Attribute (0400,0402), particularly if the SOP Instance does not have appropriate Digital Signatures that can be referenced.
>>MAC Calculation Transfer Syntax UID	(0400,0010)	1	The Transfer Syntax UID used to encode the values of the Data Elements included in the MAC calculation. When computing the MAC, only Transfer Syntaxes that explicitly include the VR and use Little Endian encoding shall be used. Notes: 1. Certain Transfer Syntaxes, particularly those that are used with compressed data, allow the fragmentation of the pixel data to change. If such fragmentation changes, Digital Signatures generated with such Transfer Syntaxes could become invalid. 2. This does not constrain the transfer syntax used to transmit the object.
>>MAC Algorithm	(0400,0015)	1	The algorithm used in generating the MAC. Defined Terms: RIPEMD160 MD5 SHA1 Note: Digital Signature Security Profiles

			(see PS 3.15) may require the use of a restricted subset of these terms.
>>Data Elements Signed	(0400,0020)	1	A list of Data Element Tags in the order they appear at the top level of the referenced SOP Instance that identify the Data Elements used in creating the MAC. See Section C.12.1.1.3.1.1.
>>MAC	(0400,0404)	1	The MAC generated as described in Section 12.2.1.1, but unencrypted and without inclusion of fields from the Digital Signatures Sequence. See Section C.12.1.1.3.1.2.

Add flag to GP-PPS results:

**C.4.22 General Purpose Results**

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**Table C.4.22-1  
 GENERAL PURPOSE RESULTS MODULE ATTRIBUTES**

<b>Attribute Name</b>	<b>Tag</b>	<b>Attribute Description</b>
Output Information Sequence	(0040,4033)	A Sequence that provides reference to one or more Composite SOP instances, that identify the Structured Reports or other results created.  Zero or more Items may be included in this sequence.
<b>&gt;Include 'SOP Instance Reference Macro' Table C.17-3</b>		
<b>&gt;Study Instance UID</b>	<b>(0020,000D)</b>	<b>Unique identifier for the Study</b>
<b>&gt;Referenced Series Sequence</b>	<b>(0008,1115)</b>	<b>Sequence of Repeating Items where each Item includes the Attributes of a Series containing referenced Composite Object(s). One or more Items may be included in this sequence</b>
<b>&gt;&gt;Archive Requested</b>	<b>(0040,A494)</b>	<b>The instances in this series are expected to be archived in the long term archive.</b>  <b>Defined Terms:</b> <b>_____ NO, YES</b>

<b>&gt;&gt;Include Series Reference Macro Table C.17-3a</b>		
Requested Subsequent Workitem Code Sequence	(0040,4031)	A Sequence that provides suggested next Workitems, based on the produced results. Note: This Attribute may also be used in case a step has been done incorrectly and should be redone.  Zero or more Items may be included in this sequence
>Include Code Sequence Macro Table 8.8-1		Baseline Context ID is CID 9231.
Non-DICOM Output Code Sequence	(0040,4032)	A Sequence that describes any non-DICOM output produced as results.  Zero or more Items may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		Baseline Context ID is CID 9232.

Factor out Series Reference Macro from SOP Instance Reference Macro:

**C.17.2.1 SOP Instance Reference Macro**

Table C.17-3 specifies the Attributes that reference a list of SOP Instances.

**Table C.17-3  
 SOP INSTANCE REFERENCE MACRO ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
Study Instance UID	(0020,000D)	1	Unique identifier for the Study
Referenced Series Sequence	(0008,1115)	1	Sequence of Repeating Items where each Item includes the Attributes of a Series containing referenced Composite Object(s). One or more Items may be included in this sequence
<b>&gt;&gt;Include Series Reference Macro Table C.17-3a</b>			
<del>&gt;Series Instance UID</del>	<del>(0020,000E)</del>	<del>1</del>	<del>Unique identifier of a Series that is part of this Study and contains the referenced Composite Object(s).</del>
<del>&gt;Retrieve AE Title</del>	<del>(0008,0054)</del>	<del>3</del>	<del>Title of the DICOM Application Entity where the Composite Object(s) may be retrieved on the network.</del>
<del>&gt;Storage Media File Set ID</del>	<del>(0088,0130)</del>	<del>3</del>	<del>The user or implementation specific human readable identifier that identifies the Storage Media on which the Composite Object (s) reside.</del>
<del>&gt;Storage Media File Set UID</del>	<del>(0088,0140)</del>	<del>3</del>	<del>Uniquely identifies the Storage Media on which the Composite Object (s) reside.</del>
<del>&gt;Referenced SOP Sequence</del>	<del>(0008,1199)</del>	<del>1</del>	<del>References to Composite Object SOP Class/SOP Instance pairs that are part of the Study defined by Study Instance UID and the Series defined by Series Instance UID (0020,000E). One or more Items may be included in this sequence</del>
<del>&gt;&gt;Referenced SOP Class UID</del>	<del>(0008,1150)</del>	<del>1</del>	<del>Uniquely identifies the referenced SOP Class.</del>

>>Referenced SOP Instance UID	(0008,1155)	4	Uniquely identifies the referenced SOP Instance.
>>Purpose of Reference Code Sequence	(0040,A170)	3	Describes the purpose for which the reference is made. Zero or more Items may be included in this sequence.
>>>Include 'Code Sequence Macro' Table 8.8-1		<i>Baseline Context ID may be specified in Macro invocation.</i>	
>>Referenced Digital Signature Sequence	(0400,0402)	3	Sequence of references to Digital Signatures in the referenced SOP Instance. Zero or more Items may be present.  Note: The Attributes in this sequence can be used to detect if the referenced SOP Instance has been altered.
>>>Digital Signature UID	(0400,0100)	4	The Unique Identifier of a Digital Signature held in the referenced SOP Instance.
>>>Signature	(0400,0120)	4	The Signature Value identified by the Digital Signature UID within the Referenced SOP Instance UID.
>>Referenced SOP Instance MAC Sequence	(0400,0403)	3	A MAC Calculation from data in the referenced SOP Instance that can be used as a data integrity check.  Note: This Attribute may be used in place of the Referenced Digital Signature Sequence Attribute (0400,0402), particularly if the SOP Instance does not have appropriate Digital Signatures that can be referenced.
>>>MAC Calculation Transfer Syntax UID	(0400,0010)	4	The Transfer Syntax UID used to encode the values of the Data Elements included in the MAC calculation. When computing the MAC, only Transfer Syntaxes that explicitly include the VR and use Little Endian encoding shall be used.  Notes: 1. Certain Transfer Syntaxes, particularly those that are used with compressed data, allow the fragmentation of the pixel data to change. If such fragmentation changes, Digital Signatures generated with such Transfer Syntaxes could become invalid. 2. This does not constrain the transfer syntax used to transmit the object.
>>>MAC Algorithm	(0400,0015)	4	The algorithm used in generating the MAC.  Defined Terms: ——— RIPEMD160

			<del>MD5</del> <del>SHA1</del> <del>Note: Digital Signature Security Profiles (see PS 3.15) may require the use of a restricted subset of these terms.</del>
>>>Data Elements Signed	(0400,0020)	1	<del>A list of Data Element Tags in the order they appear at the top level of the referenced SOP Instance that identify the Data Elements used in creating the MAC. See Section C.12.1.1.3.1.1.</del>
>>>MAC	(0400,0404)	1	<del>The MAC generated as described in Section 12.2.1.1, but unencrypted and without inclusion of fields from the Digital Signatures Sequence. See Section C.12.1.1.3.1.2.</del>