Digital Imaging and Communications in Medicine (DICOM)

Supplement 50: Mammography Computer-Aided Detection SR SOP Class

Status: Final Text – May 18, 2001

DICOM Standards Committee

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Foreword

This supplement to the DICOM standard introduces the DICOM format for the results of computer-aided detection (CAD) of potential malignancies in mammograms. The supplement provides the means for encoding a CAD system's mammographic analysis. This includes such basic information as:

- Lesion type, e.g., density, microcalcification cluster, architectural distortion
- Bounding regions of lesions, as given by a rectangle, ellipse or polyline
- Correlation between lesions detected in different views of a mammogram

The supplement also defines the DICOM format for advanced mammographic findings more commonly associated with computer-aided diagnosis. Examples of such findings include the morphology of lesions, descriptions of the breast architecture, image quality metrics and overall impressions of and recommendations for the mammogram. The inclusion of computer-aided diagnosis information is optional, so makers of systems that produce only detection results can still use the format described herein.

This draft Supplement to the DICOM Standard was developed according to DICOM Committee Procedures. The DICOM Standard is developed in liaison with other Standards Organizations including HL7, CEN/TC 251 in Europe and MEDIS-DC, JAMI, and JIRA in Japan, with review by other organizations.

The DICOM Standard is structured as a multi-part document using the guidelines established in the following document:

-    ISO/IEC Directives, 1989 Part 3 - Drafting and Presentation of International Standards.

This document is a Supplement to the DICOM Standard. It is an extension to PS 3.3, PS 3.4 and 3.6 of the published DICOM Standard which consists of the following parts:

PS 3.1	-	Introduction and Overview
PS 3.2	-	Conformance
PS 3.3	-	Information Object Definitions
PS 3.4	-	Service Class Specifications
PS 3.5	-	Data Structures and Encoding
PS 3.6	-	Data Dictionary
PS 3.7	-	Message Exchange
PS 3.8	-	Network Communication Support for Message Exchange
PS 3.9	-	Point-to-Point Communication Support for Message Exchange
PS 3.10	-	Media Storage and File Format
PS 3.11	-	Media Storage Application Profiles
PS 3.12	-	Media Formats and Physical Media
PS 3.13	-	Print Management - Point-to-point Communication Support
PS 3.14	-	Grayscale Standard Display Function
PS 3.15	-	Security Profiles
PS 3.16	-	Content Mapping Resource

These Parts are independent but related documents.

Scope and Field of Application

This supplement to the DICOM standard only defines how the results of a computer's mammographic analysis should be encoded. It does not define or describe inputs to the mammography CAD system other than the use of mammography CAD output (e.g. prior year's report) as input to subsequent temporal analyses; nor does it describe output for studies other than mammograms. Note that the input may be comprised of digitized or digitally acquired X-ray images, ultrasound or other germane mammographic images. Some of the information described is beyond that which current mammography CAD systems can produce. However, the DICOM committee includes it because it is expected to become relevant during the lifetime of the supplement.

The mammography CAD output is in the form of a DICOM Structured Report. The report can be used on its own, for example for displaying the detected lesions on a monitor or printer. It can be used within a larger Structured Report document, e.g., as part of a comprehensive breast imaging report. It can even be used as input to a mammography CAD system, for example to provide information on detections in prior years' mammograms. In all cases, the output is a Structured Report (SR), so readers should become familiar with the Comprehensive SR IOD and corresponding SOP class. In addition, provision has been made to allow description of the mammography CAD output using BI-RADS terminology and nomenclature (see additions to PS 3.16, Normative References). International organizations are being encouraged to contribute additional terminology and nomenclature.

This document specifies the Mammography CAD SR IOD and the corresponding Mammography CAD SR Storage SOP class. Since this supplement proposes changes to existing parts of DICOM, the reader should have a working understanding of the Standard.

The Mammography CAD SR IOD is designed to allow minimal content, depending on the capabilities of the mammography CAD system producing this object. Since the content tree defined in this document can incorporate many of the same impressions a human observer would make (at least for a period of time), it is not a requirement that mammography CAD systems be able to fully encode all content items in the content tree templates. Instead, mammography CAD systems may populate optional content items as they see fit, to meet the requirements of the market; different mammography CAD systems may produce different content.

The content sparseness does put more burden onto devices parsing and interpreting the content tree. Interoperability needs may force parsers to handle a broad array of sparsely populated content trees.

Add the following to PS 3.3 Section 4 Symbols and Abbreviations

Mammography CAD   Computer-Aided Detection and/or Computer-Aided Diagnosis for Mammography

Part 3, Annex A Addendum

Add the following to PS 3.3 Annex A

Update the Composite Module Table to include Mammography CAD SR IOD and Modules

IODs Modules	Mammography CAD SR
Patient	M
Specimen Identification	C
General Study	M
Patient Study	U
SR Document Series	M
General Equipment	M
SR Document General	M
SR Document Content	M
SOP Common	M

A.35 STRUCTURED REPORT DOCUMENT INFORMATION OBJECT DEFINITIONS

A.35.X Mammography CAD SR Information Object Definition

A.35.X.1 Mammography CAD SR Information Object Description

The Mammography CAD SR IOD is used to convey the detection and analysis results of a mammography CAD device. The content may include textual and a variety of coded information, numeric measurement values, references to the SOP Instances, and spatial regions of interest within such SOP Instances. Relationships by-reference are enabled between Content Items.

A.35.X.2 Mammography CAD SR IOD Entity-Relationship Model

The E-R Model in Section A.1.2 of this Part applies to the Mammography CAD SR IOD. The Frame of Reference IE, and the IEs at the level of the Image IE in Section A.1.2 are not components of the Mammography CAD SR IOD. Table A.X.1-1 specifies the Modules of the Mammography CAD SR IOD.

A.35.X.3 Mammography CAD SR IOD Module Table

Table A.X.1-1 specifies the Modules of the Mammography CAD SR IOD.

Table A.X.1-1
MAMMOGRAPHY CAD SR IOD MODULES

IE	Module	Reference	Usage
Patient	Patient	C.7.1.1	M
	Specimen Identification	C.7.1.2	C - Required if the Observation Subject is a Specimen
Study	General Study	C.7.2.1	M
	Patient Study	C.7.2.2	U
Series	SR Document Series	C.17.1	M
Equipment	General Equipment	C.7.5.1	M
Document	SR Document General	C.17.2	M
	SR Document Content	C.17.3	M
	SOP Common	C.12.1	M

A.35.X.3.1   Mammography CAD SR IOD Content Constraints

A.35.X.3.1.1   Template Constraints

- The document shall be constructed from TID 4000 Mammography CAD Document Root invoked at the root node.

- When a content item sub-tree from a prior document is duplicated by-value, its observation context shall be defined by TID 1001, Observation Context, and its subordinate templates, as described in PS 3.16, DCMR Templates.

   Note: All Template and Context Group definitions are located in PS 3.16, DICOM Content Mapping Resource, in the Annexes titled DCMR Templates and DCMR Context Groups, respectively.

A.35.X.3.1.2   Value Type

Value Type (0040,A040) in the Content Sequence (0040,A730) of the SR Document Content Module is constrained to the following Enumerated Values (see Table C.17.3-1 for Value Type definitions):

        TEXT
        CODE
        NUM
        DATE
        TIME
        PNAME
        SCOORD
        COMPOSITE
        IMAGE
        CONTAINER

A.35.X.3.1.3   Relationship Constraints

The Mammography CAD SR IOD makes extensive use of by-reference INFERRED FROM and by-reference SELECTED FROM relationships. Other relationships by-reference are forbidden. Table

A.35.X-2 specifies the relationship constraints of this IOD. See Table C.17.3-2 for Relationship Type definitions.

Table A.35.X-2
RELATIONSHIP CONTENT CONSTRAINTS FOR MAMMOGRAPHY CAD SR IOD

Source Value Type	Relationship Type (Enumerated Values)	Target Value Type
CONTAINER	CONTAINS	CODE, NUM, SCOORD, IMAGE[1], CONTAINER.
TEXT, CODE, NUM, CONTAINER	HAS OBS CONTEXT	TEXT, CODE, NUM, DATE, TIME, PNAME, COMPOSITE[1].
IMAGE	HAS ACQ CONTEXT	TEXT, CODE, DATE, TIME.
CONTAINER, CODE	HAS CONCEPT MOD	TEXT, CODE[2].
TEXT, CODE	HAS PROPERTIES	TEXT, CODE, NUM, DATE, IMAGE[1], SCOORD.
CODE, NUM	INFERRED FROM	CODE, NUM, SCOORD, CONTAINER.
SCOORD	SELECTED FROM	IMAGE[1].

Note:1. Which SOP Classes the IMAGE or COMPOSITE Value Type may refer to, is documented in the Conformance Statement for an application (see PS 3.2 and PS 3.4).

2. The HAS CONCEPT MOD relationship is used to modify the meaning of the Concept Name of a Source Content Item, for example to provide a more descriptive explanation, a different language translation, or to define a post-coordinated concept.

Part 3, Annex X Addendum

Add the following to PS 3.3

ANNEX X (INFORMATIVE)

X.1 Mammography CAD SR Content Tree Structure

 The templates for the Mammography CAD SR IOD are defined in PS 3.16, Annex A, DCMR Templates. Relationships defined in the Mammography CAD SR IOD templates are by-value, unless otherwise stated. Content items referenced from another SR object instance, such as a prior Mammography CAD SR, are inserted by-value in the new SR object instance, with appropriate original source observation context. It is necessary to update Rendering Intent, and referenced content item identifiers for by-reference relationships, within content items paraphrased from another source.
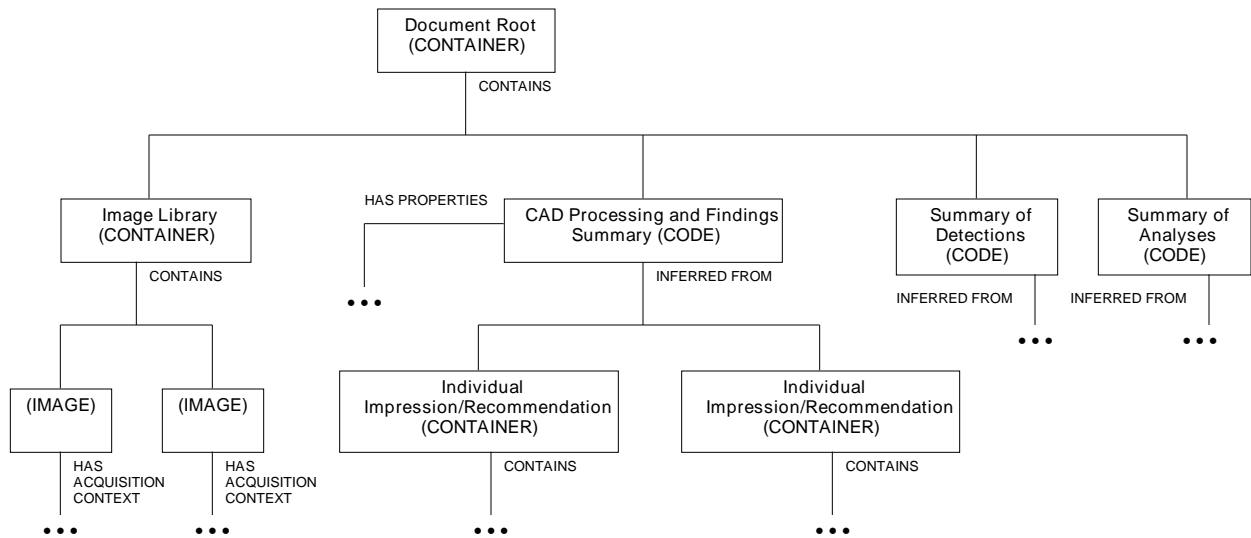
Figure x.x.x.1: Top Levels of Mammography CAD SR Content Tree

The Document Root, Image Library, Summaries of Detections and Analyses, and CAD Processing and Findings Summary sub-trees together form the content tree of the Mammography CAD SR IOD.
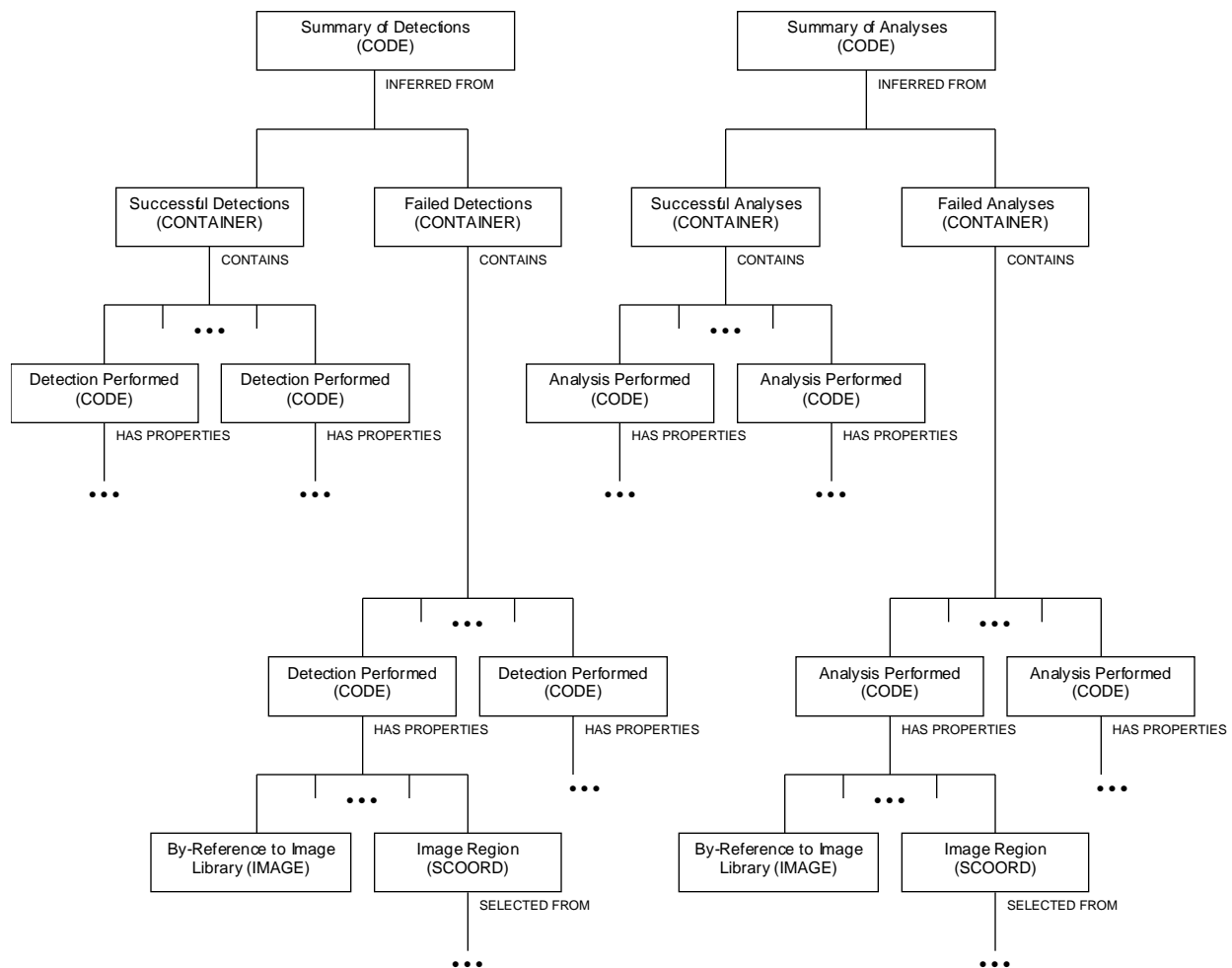
**Figure x.x.x.2: Summary of Detections and Analyses Levels of
Mammography CAD SR Content Tree**

The Summary of Detections and Summary of Analyses sub-trees identify the algorithms used and the work done by the mammography CAD device, and whether or not each process was performed on one or more entire images or selected regions of images. The findings of the detections and analyses are not encoded in the summary sub-trees, but rather in the Overall Impression/Recommendation sub-tree. Mammography CAD processing may produce no findings, in which case the sub-trees of the Overall Impression/Recommendation sub-tree are incompletely populated. This occurs in the following situations:

a. All algorithms succeeded, but no findings resulted

b. Some algorithms succeeded, some failed, but no findings resulted

c. All algorithms failed

Note 1: If the tree contains no Individual Impression/Recommendation nodes and all attempted detections and analyses succeeded then the mammography CAD device made no findings.

Note 2: Detections and Analyses that are not attempted are not listed in the Summary of Detections and Summary of Analyses trees.

Note 3: If the code value of the Summary of Detections or Summary of Analyses codes in TID 4000 is "Not Attempted" then no detail is provided as to which algorithms were not attempted.
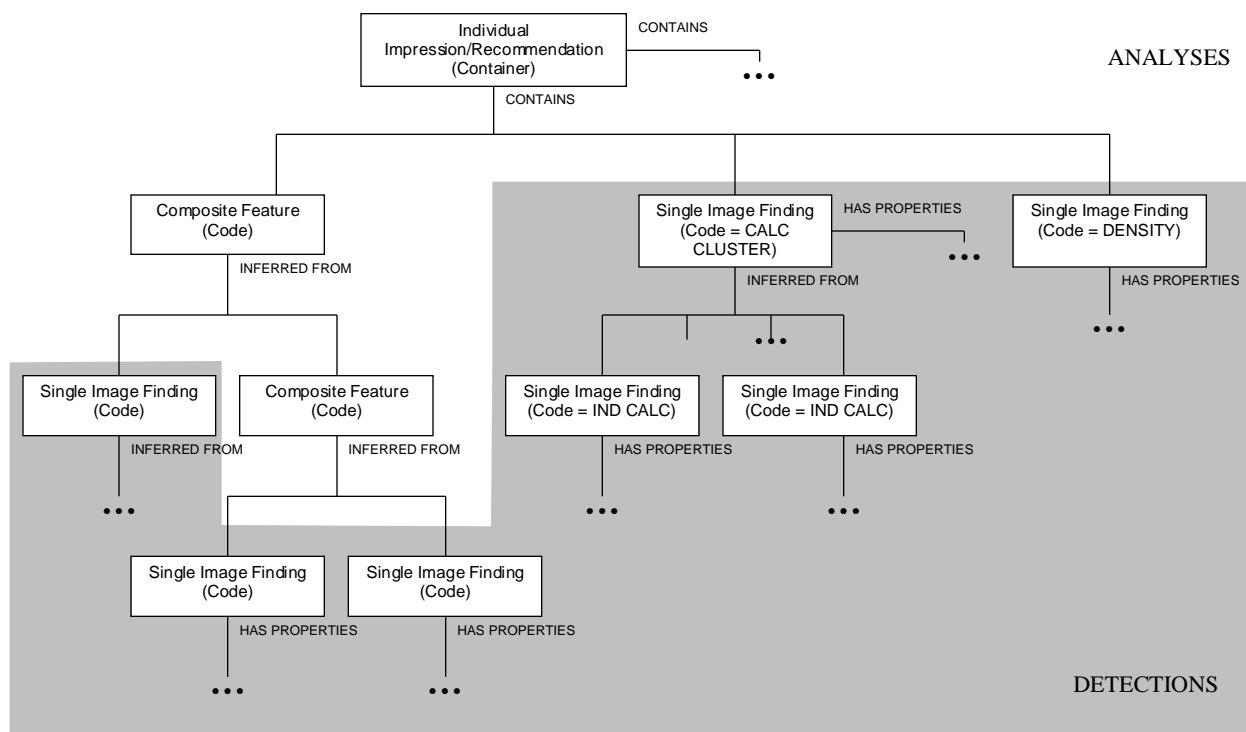
Figure x.x.x.3: Example of Individual Impression/Recommendation Levels of
Mammography CAD SR Content Tree

The shaded area in Figure x.x.x.3 demarcates information resulting from Detection, whereas the unshaded area is information resulting from Analysis. This distinction is used in determining whether to place algorithm identification information in the Summary of Detections or Summary of Analyses sub-trees.

The clustering of calcifications within a single image is considered to be a Detection process which results in a Single Image Finding. The spatial correlation of a calcification cluster in two views, resulting in a Composite Feature, is considered Analysis. The clustering of calcifications in a single image is the only circumstance in which a Single Image Finding can result from the combination of other Single Image Findings, which must be Individual Calcifications.

Once a Single Image Finding or Composite Feature has been instantiated, it may be referenced by any number of Composite Features higher in the tree.

X.2 Mammography CAD SR Observation Context Encoding

- Any content item in the Content tree that has been inserted (i.e., duplicated) from another SR object instance has a HAS OBS CONTEXT relationship to one or more content items that describe the context of the SR object instance from which it originated. This mechanism may be used to combine reports (e.g., Mammography CAD 1, Mammography CAD 2, Human).

- By-reference relationships within Single Image Findings and Composite Features paraphrased from prior Mammography CAD SR objects need to be updated to properly reference Image Library Entries carried from the prior object to their new positions in the present object.

The Impression/Recommendation section of the SR Document Content tree of a Mammography CAD SR IOD may contain a mixture of current and prior single image findings and composite features. The content items from current and prior contexts are target content items that have a by-value INFERRED FROM relationship to a Composite Feature content item. Content items that come from a context other than the Initial Observation Context have a HAS OBS CONTEXT relationship to target content items that describe the context of the source document.

In Figure x.x.x.4, Composite Feature and Single Image Finding are current, and Single Image Finding (from Prior) is duplicated from a prior document.
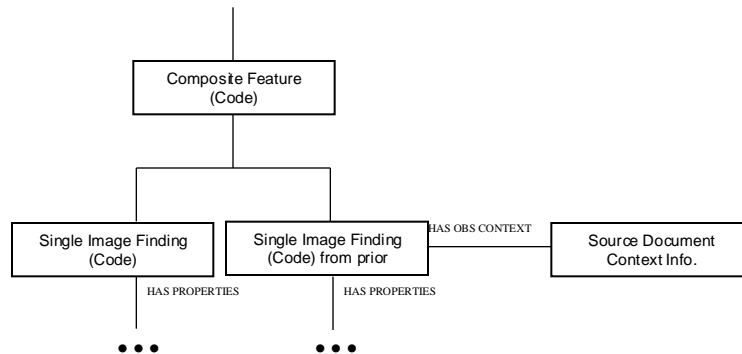
Figure x.x.x.4: Example of Use of Observation Context

X.3 Mammography CAD SR Examples

The following is a simple and non-comprehensive illustration of an encoding of the Mammography CAD SR IOD for Mammography computer aided detection results. For brevity, some Mandatory content items are not included, such as several acquisition context content items for the images in the Image Library.

Example 1: Calcification and Mass Detection with No Findings

A mammography CAD device processes a typical screening mammography case, i.e., there are four films and no cancer. Mammography CAD runs both density and calcification detection successfully and finds nothing. The mammograms resemble:
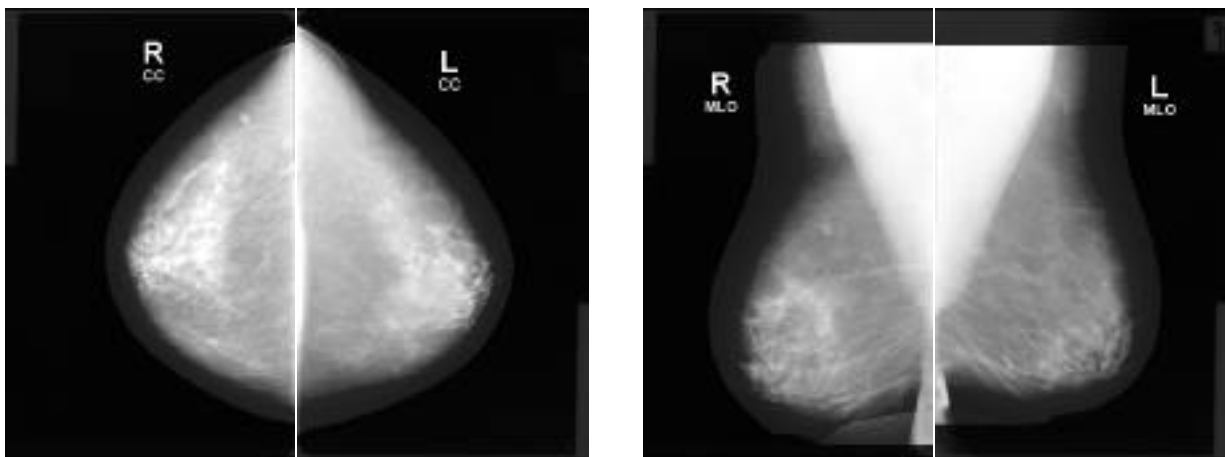
Figure x.x.x.5: Mammograms as Described in Example 1

The content tree structure would resemble:

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1	Mammography CAD Report		4000
1.1	Image Library		4000

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.1.1		IMAGE 1	4020
1.1.1.1	Image Laterality	Right	4020
1.1.1.2	Image View	Cranio-caudal	4020
1.1.1.3	Study Date	19980101	4020
1.1.2		IMAGE 2	4020
1.1.2.1	Image Laterality	Left	4020
1.1.2.2	Image View	Cranio-caudal	4020
1.1.2.3	Study Date	19980101	4020
1.1.3		IMAGE 3	4020
1.1.3.1	Image Laterality	Right	4020
1.1.3.2	Image View	Medio-lateral oblique	4020
1.1.3.3	Study Date	19980101	4020
1.1.4		IMAGE 4	4020
1.1.4.1	Image Laterality	Left	4020
1.1.4.2	Image View	Medio-lateral oblique	4020
1.1.4.3	Study Date	19980101	4020
1.2	CAD Processing and Findings Summary	All algorithms succeeded; without findings	4001
1.3	Summary of Detections	Succeeded	4000
1.3.1	Successful Detections		4015
1.3.1.1	Detection Performed	Density	4017
1.3.1.1.1	Algorithm Name	"Density Detector"	4019
1.3.1.1.2	Algorithm Version	"V3.7"	4019
1.3.1.1.3		Reference to node 1.1.1	4017
1.3.1.1.4		Reference to node 1.1.2	4017
1.3.1.1.5		Reference to node 1.1.3	4017
1.3.1.1.6		Reference to node 1.1.4	4017
1.3.1.2	Detection Performed	Individual Calcification	4017
1.3.1.2.1	Algorithm Name	"Calc Detector"	4019
1.3.1.2.2	Algorithm Version	"V2.4"	4019

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.3.1.2.3		Reference to node 1.1.1	4017
1.3.1.2.4		Reference to node 1.1.2	4017
1.3.1.2.5		Reference to node 1.1.3	4017
1.3.1.2.6		Reference to node 1.1.4	4017
1.4	Summary of Analyses	Not Attempted	4000

Example 2: Calcification and Mass Detection with Findings

A mammography CAD device processes a screening mammography case with four films and a mass in the left breast. Mammography CAD runs both density and calcification detection successfully. It finds two densities in the LCC, one density in the LMLO, a cluster of two calcifications in the RCC and a cluster of 20 calcifications in the RMLO. It performs two clustering algorithms. One identifies individual calcifications and then clusters them, and the second simply detects calcification clusters. It performs mass correlation and combines one of the LCC densities and the LMLO density into a mass; the other LCC density is flagged Not for Presentation, therefore not intended for display to the end-user. The mammograms resemble:
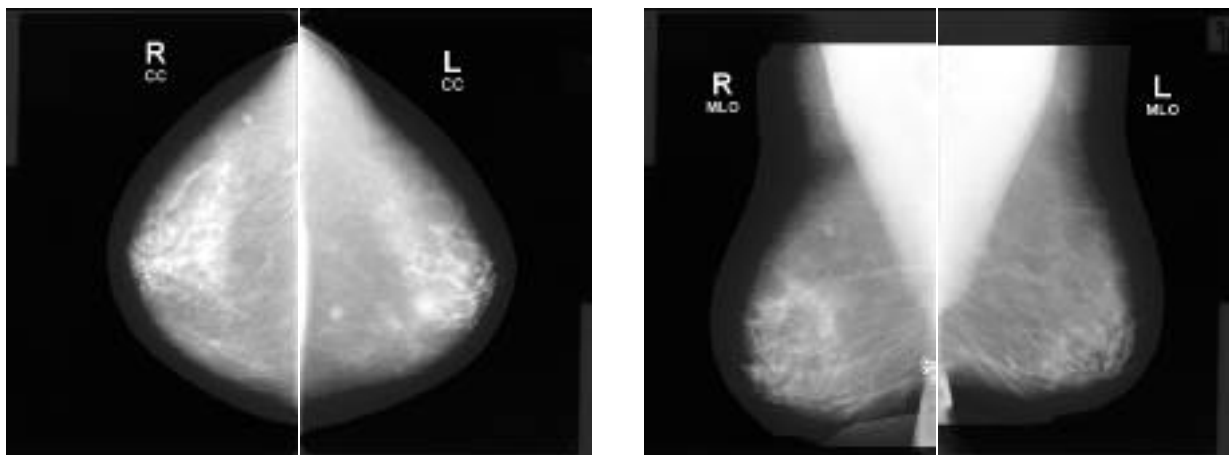
Figure x.x.x.6: Mammograms as Described in Example 2

The content tree structure in this example is complex. Structural illustrations of portions of the content tree are placed within the content tree table to show the relationships of data within the tree. Some content items are duplicated (and shown in boldface) to facilitate use of the diagrams.
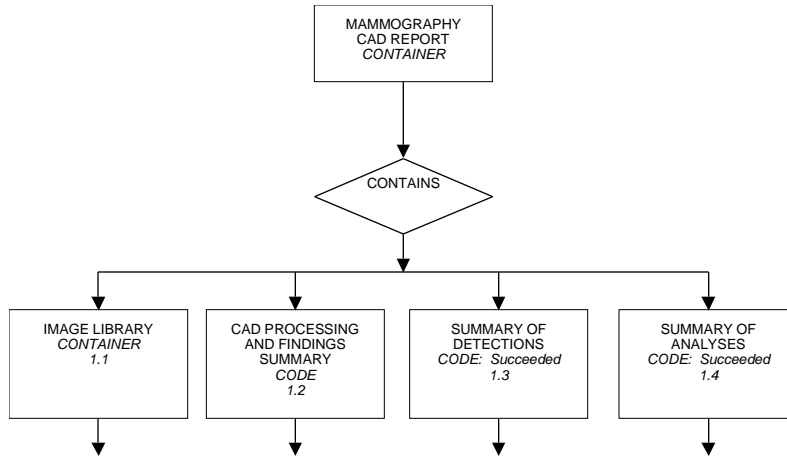
Figure x.x.x.7: Content Tree Root of Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1	Mammography CAD Report		4000
1.1	Image Library		4000
1.2	CAD Processing and Findings Summary	All algorithms succeeded; with findings	4001
1.3	Summary of Detections	Succeeded	4000
1.4	Summary of Analyses	Succeeded	4000
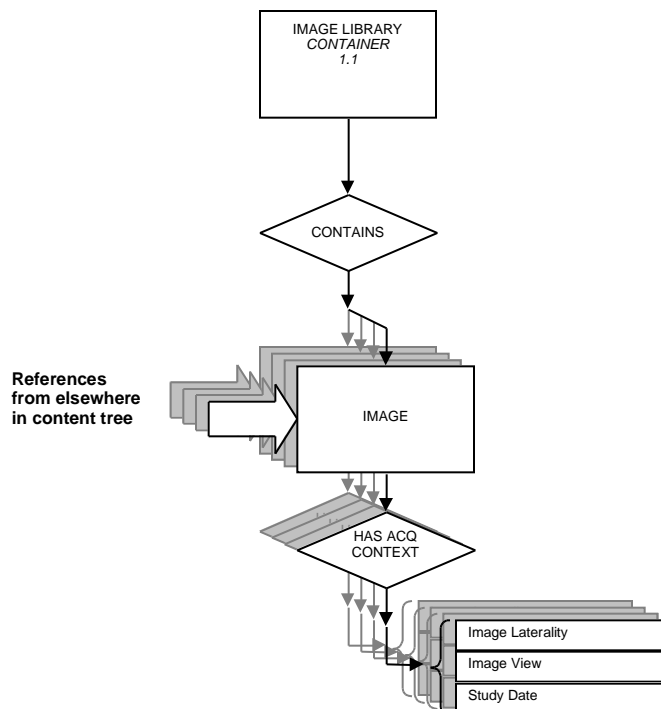
Figure x.x.x.8: Image Library Branch of Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.1	Image Library		4000
1.1.1		IMAGE 1	4020
1.1.1.1	Image Laterality	Right	4020
1.1.1.2	Image View	Cranio-caudal	4020
1.1.1.3	Study Date	19990101	4020
1.1.2		IMAGE 2	4020
1.1.2.1	Image Laterality	Left	4020
1.1.2.2	Image View	Cranio-caudal	4020
1.1.2.3	Study Date	19990101	4020
1.1.3		IMAGE 3	4020
1.1.3.1	Image Laterality	Right	4020
1.1.3.2	Image View	Medio-lateral oblique	4020
1.1.3.3	Study Date	19990101	4020
1.1.4		IMAGE 4	4020
1.1.4.1	Image Laterality	Left	4020
1.1.4.2	Image View	Medio-lateral oblique	4020
1.1.4.3	Study Date	19990101	4020
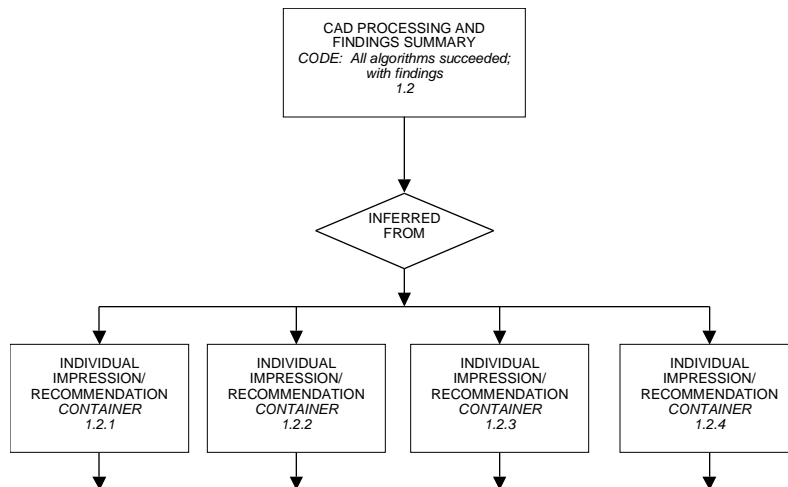
Figure x.x.x.9: CAD Processing and Findings Summary Bifurcation of Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2	CAD Processing and Findings Summary	All algorithms succeeded; with findings	4001
1.2.1	Individual Impression/Recommendation		4003

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.2	Individual Impression/Recommendation		4003
1.2.3	Individual Impression/Recommendation		4003
1.2.4	Individual Impression/Recommendation		4003
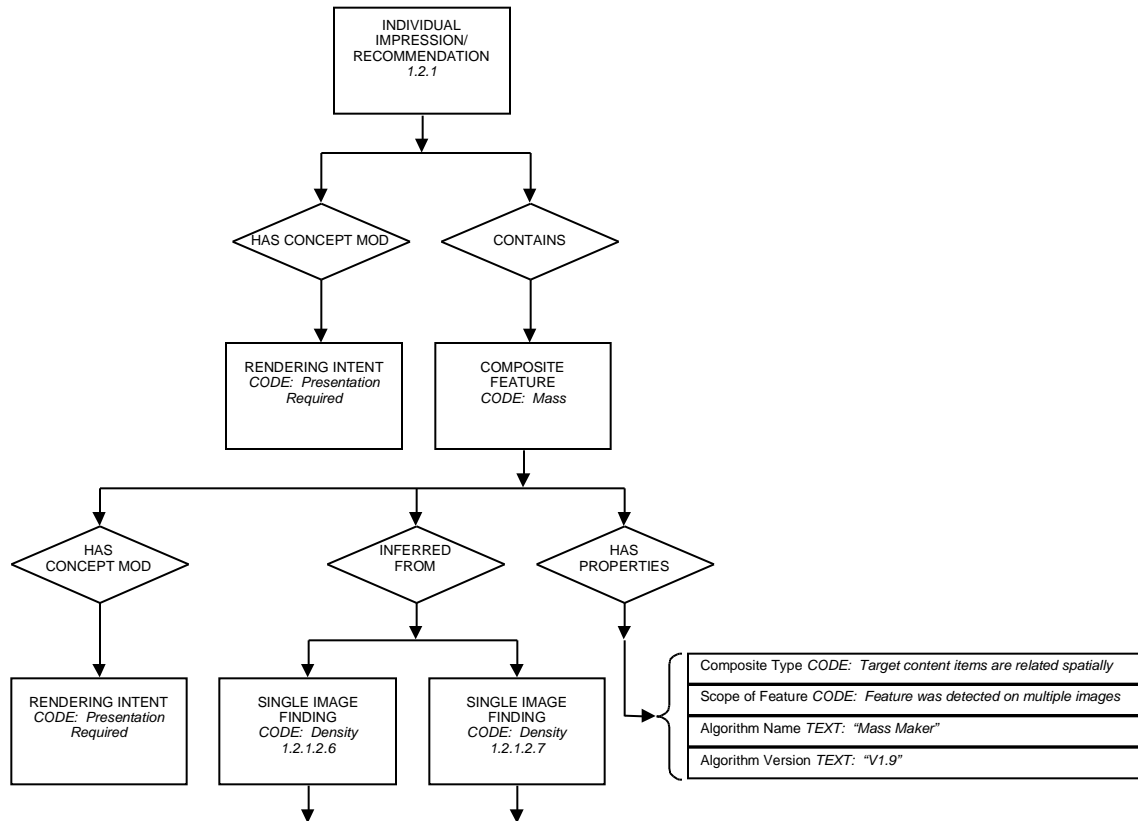
Figure x.x.x.10: Individual Impression/Recommendation 1.2.1 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.1	Individual Impression/Recommendation		4003
1.2.1.1	Rendering Intent	Presentation Required	4003
1.2.1.2	Composite Feature	Mass	4004
1.2.1.2.1	Rendering Intent	Presentation Required	4004
1.2.1.2.2	Composite type	Target content items are related spatially	4005
1.2.1.2.3	Scope of Feature	Feature was detected on multiple images	4005
1.2.1.2.4	Algorithm Name	"Mass Maker"	4019
1.2.1.2.5	Algorithm Version	"V1.9"	4019

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.1.2.6	Single Image Finding	Density	4006
1.2.1.2.7	Single Image Finding	Density	4006
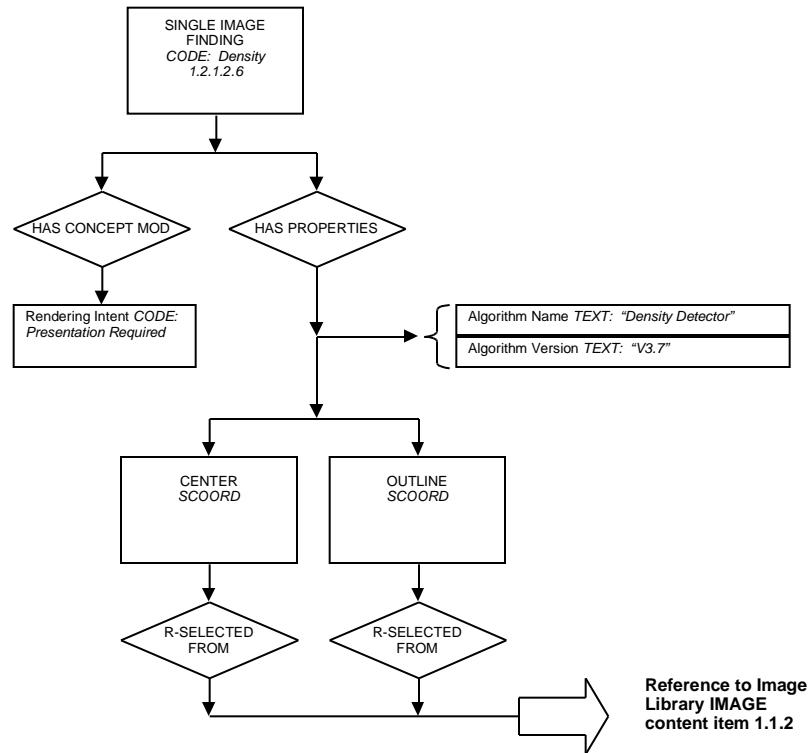
Figure x.x.x.11: Single Image Finding Density 1.2.1.2.6 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.1.2.6	Single Image Finding	Density	4006
1.2.1.2.6.1	Rendering Intent	Presentation Required	4006
1.2.1.2.6.2	Algorithm Name	"Density Detector"	4019
1.2.1.2.6.3	Algorithm Version	"V3.7"	4019
1.2.1.2.6.4	Center	POINT	4021
1.2.1.2.6.4.1		Reference to node 1.1.2	4021
1.2.1.2.6.5	Outline	SCOORD	4021
1.2.1.2.6.5.1		Reference to node 1.1.2	4021
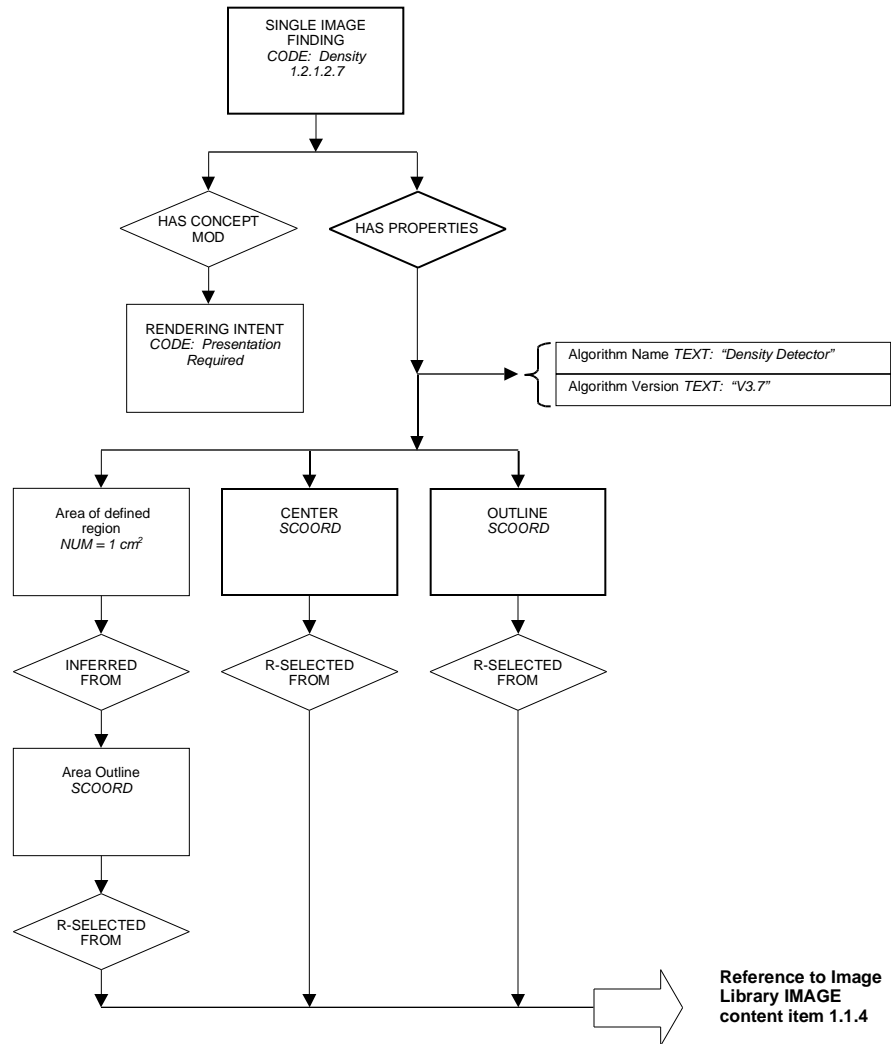
Figure x.x.x.12: Single Image Finding Density 1.2.1.2.7 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.1.2.7	Single Image Finding	Density	4006
1.2.1.2.7.1	Rendering Intent	Presentation Required	4006
1.2.1.2.7.2	Algorithm Name	"Density Detector"	4019
1.2.1.2.7.3	Algorithm Version	"V3.7"	4019
1.2.1.2.7.4	Center	POINT	4021
1.2.1.2.7.4.1		Reference to node 1.1.4	4021
1.2.1.2.7.5	Outline	SCOORD	4021
1.2.1.2.7.5.1		Reference to node 1.1.4	4021
1.2.1.2.7.6	Area of Defined Region	1 cm^2	1401
1.2.1.2.7.6.1	Area Outline	SCOORD	1401

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.1.2.7.6.1.1		Reference to node 1.1.4	1401
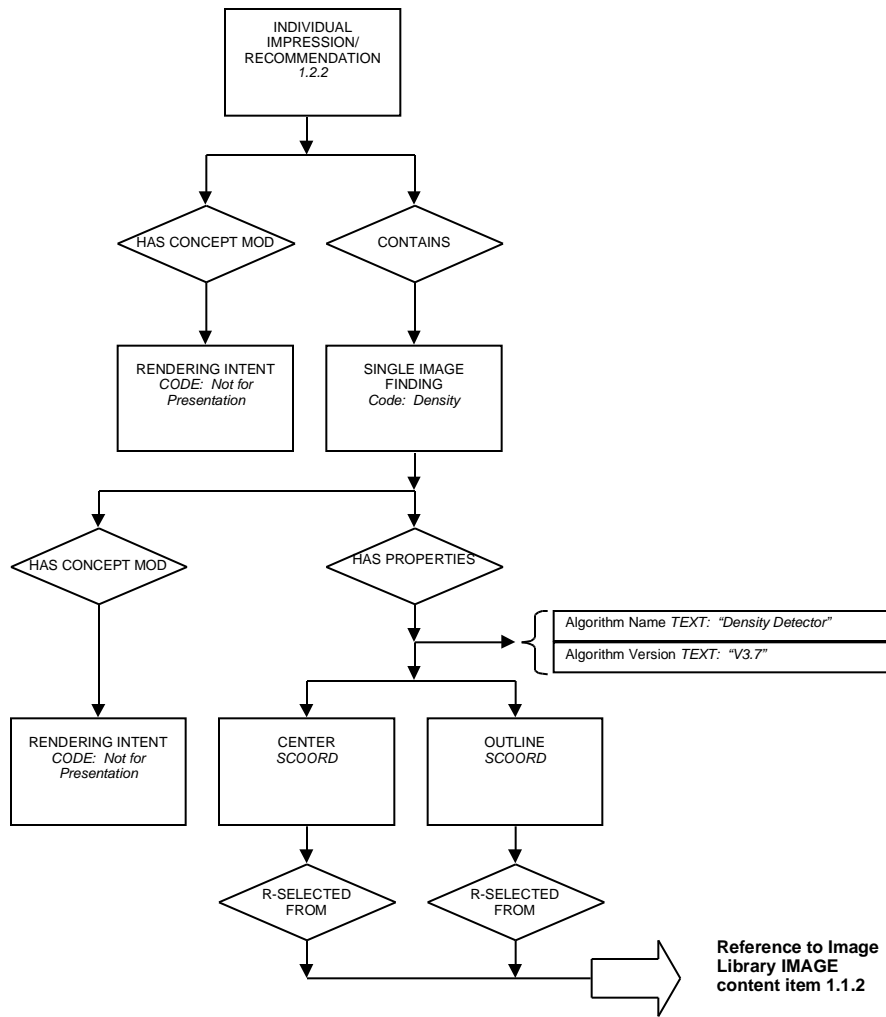
Figure x.x.x.13: Individual Impression/Recommendation 1.2.2 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.2	Individual Impression/Recommendation		4003
1.2.2.1	Rendering Intent	Not for Presentation	4003
1.2.2.2	Single Image Finding	Density	4006
1.2.2.2.1	Rendering Intent	Not for Presentation	4006
1.2.2.2.2	Algorithm Name	"Density Detector"	4019
1.2.2.2.3	Algorithm Version	"V3.7"	4019
1.2.2.2.4	Center	POINT	4021

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.2.2.4.1		Reference to node 1.1.2	4021
1.2.2.2.5	Outline	SCOORD	4021
1.2.2.2.5.1		Reference to node 1.1.2	4021
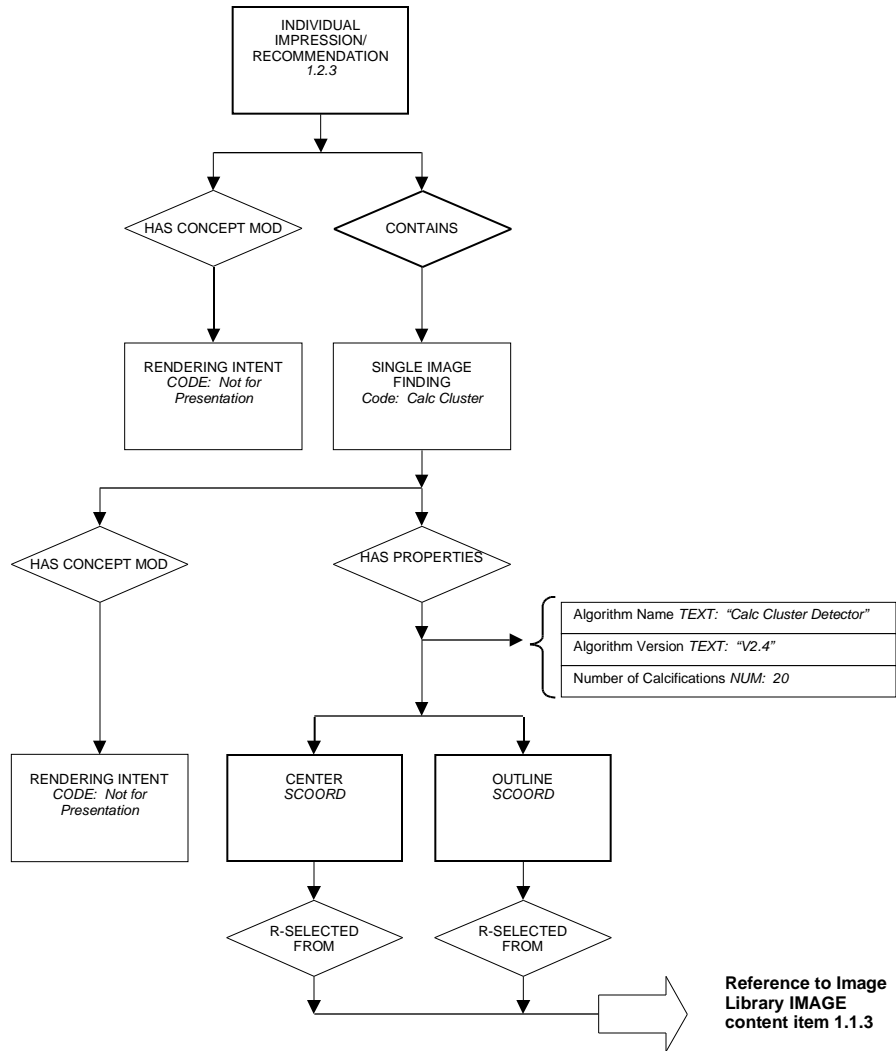
Figure x.x.x.14: Individual Impression/Recommendation 1.2.3 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.3	Individual Impression/Recommendation		4003
1.2.3.1	Rendering Intent	Presentation Required	4003
1.2.3.2	Single Image Finding	Calcification Cluster	4006
1.2.3.2.1	Rendering Intent	Presentation Required	4006

| Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.3.2.2	Algorithm Name	"Calc Cluster Detector"	4019
1.2.3.2.3	Algorithm Version	"V2.4"	4019
1.2.3.2.4	Center	POINT	4021
1.2.3.2.4.1		Reference to node 1.1.3	4021
1.2.3.2.5	Outline	SCOORD	4021
1.2.3.2.5.1		Reference to node 1.1.3	4021
1.2.3.2.6	Number of Calcifications	20	4010
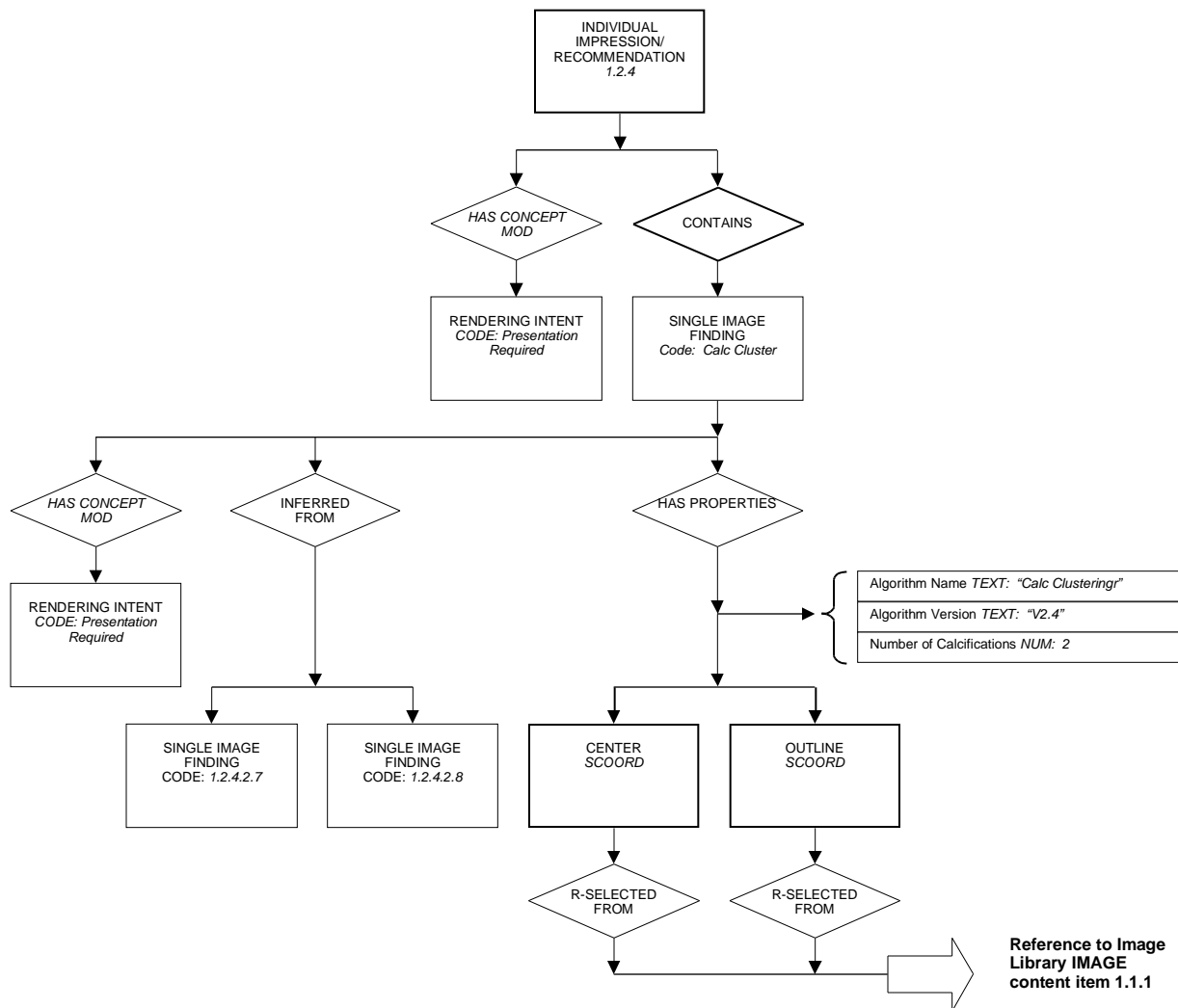
Figure x.x.x.15: Individual Impression/Recommendation 1.2.4 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID

| Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.4	Individual Impression/Recommendation		4003
1.2.4.1	Rendering Intent	Presentation Required	4003
1.2.4.2	Single Image Finding	Calcification Cluster	4006
1.2.4.2.1	Rendering Intent	Presentation Required	4006
1.2.4.2.2	Algorithm Name	"Calc Clustering"	4019
1.2.4.2.3	Algorithm Version	"V2.4"	4019
1.2.4.2.4	Center	POINT	4021
1.2.4.2.4.1		Reference to node 1.1.1	4021
1.2.4.2.5	Outline	SCOORD	4021
1.2.4.2.5.1		Reference to node 1.1.1	4021
1.2.4.2.6	Number of Calcifications	2	4010
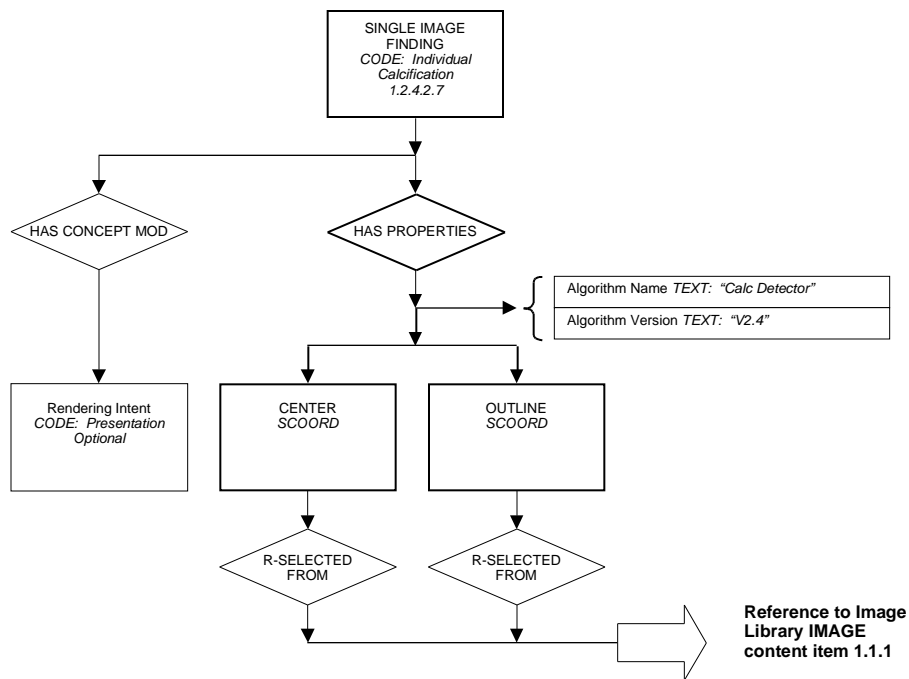
Figure x.x.x.16: Single Image Finding 1.2.4.2.7 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.4.2.7	Single Image Finding	Individual Calcification	4006
1.2.4.2.7.1	Rendering Intent	Presentation Optional	4006
1.2.4.2.7.2	Algorithm Name	"Calc Detector"	4019

| Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.4.2.7.3	Algorithm Version	"V2.4"	4019
1.2.4.2.7.4	Center	POINT	4021
1.2.4.2.7.4.1		Reference to node 1.1.1	4021
1.2.4.2.7.5	Outline	SCOORD	4021
1.2.4.2.7.5.1		Reference to node 1.1.1	4021
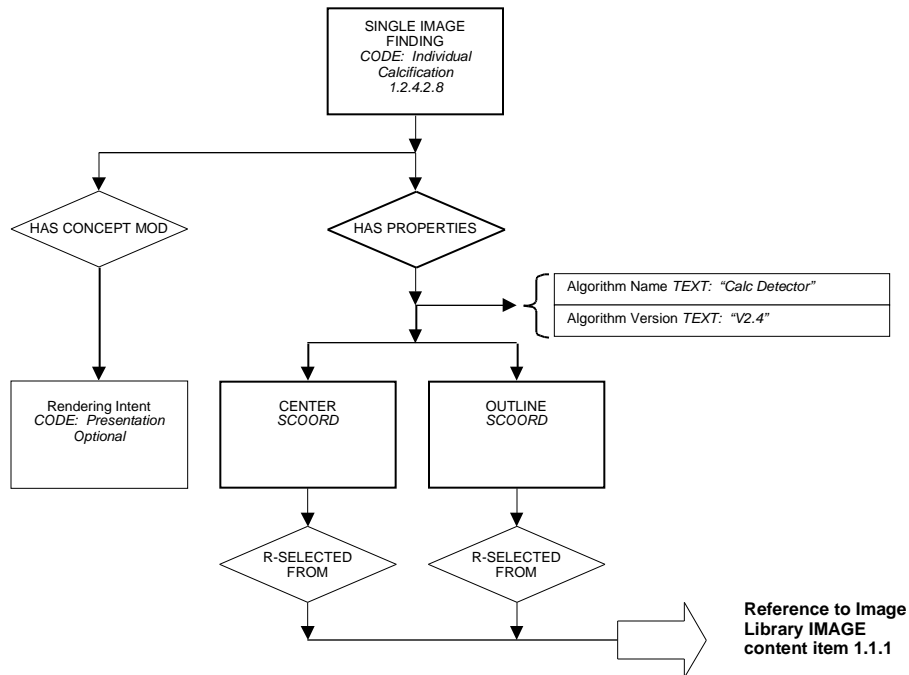
Figure x.x.x.17: Single Image Finding 1.2.4.2.8 from Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.4.2.8	Single Image Finding	Individual Calcification	4006
1.2.4.2.8.1	Rendering Intent	Presentation Optional	4006
1.2.4.2.8.2	Algorithm Name	"Calc Detector"	4019
1.2.4.2.8.3	Algorithm Version	"V2.4"	4019
1.2.4.2.8.4	Center	POINT	4021
1.2.4.2.8.4.1		Reference to node 1.1.1	4021
1.2.4.2.8.5	Outline	SCOORD	4021
1.2.4.2.8.5.1		Reference to node 1.1.1	4021
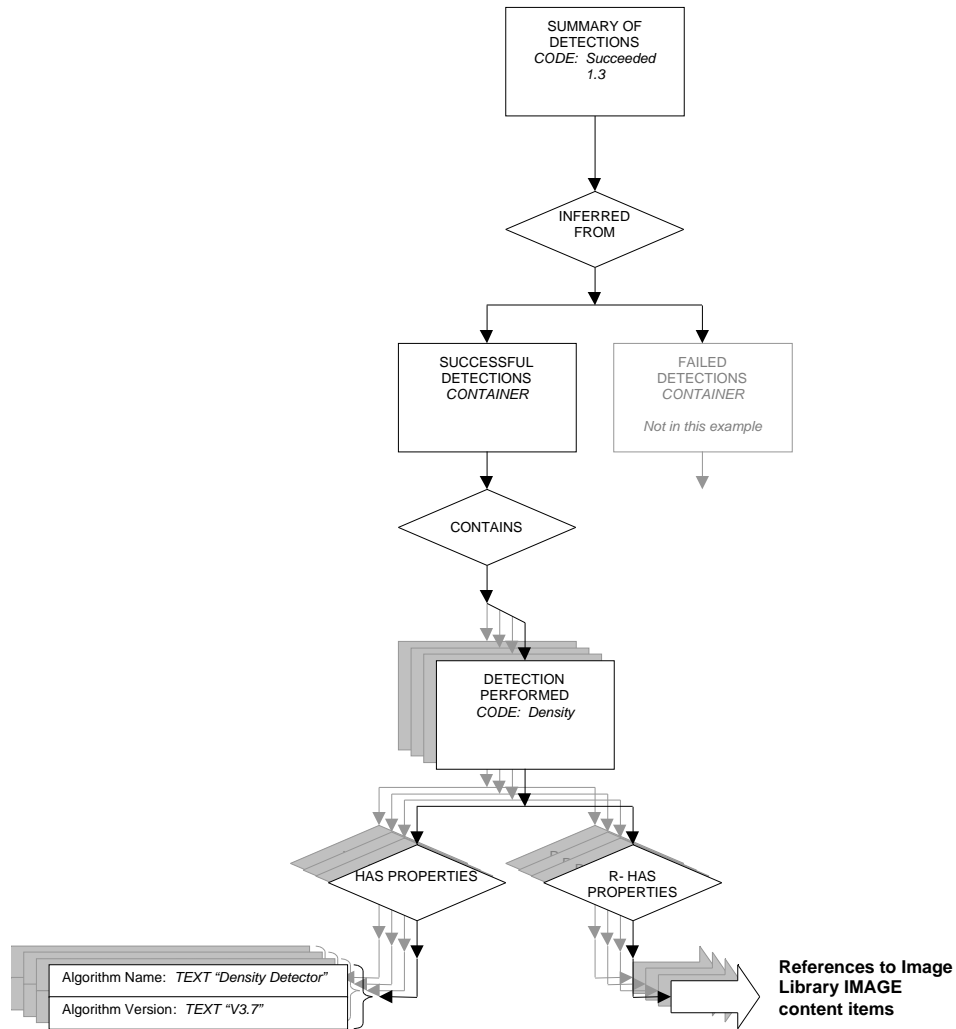
Figure x.x.x.18: Summary of Detections Branch of Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.3	Summary of Detections	Succeeded	4000
1.3.1	Successful Detections		4015
1.3.1.1	Detection Performed	Density	4017
1.3.1.1.1	Algorithm Name	"Density Detector"	4019
1.3.1.1.2	Algorithm Version	"V3.7"	4019
1.3.1.1.3		Reference to node 1.1.1	4017
1.3.1.1.4		Reference to node 1.1.2	4017
1.3.1.1.5		Reference to node 1.1.3	4017

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.3.1.1.6		Reference to node 1.1.4	4017
1.3.1.2	Detection Performed	Individual Calcification	4017
1.3.1.2.1	Algorithm Name	"Calc Detector"	4019
1.3.1.2.2	Algorithm Version	"V2.4"	4019
1.3.1.2.3		Reference to node 1.1.1	4017
1.3.1.2.4		Reference to node 1.1.2	4017
1.3.1.2.5		Reference to node 1.1.3	4017
1.3.1.2.6		Reference to node 1.1.4	4017
1.3.1.3	Detection Performed	Calcification Cluster	4017
1.3.1.3.1	Algorithm Name	"Calc Clustering"	4019
1.3.1.3.2	Algorithm Version	"V2.4"	4019
1.3.1.3.3		Reference to node 1.1.1	4017
1.3.1.4	Detection Performed	Calcification Cluster	4017
1.3.1.4.1	Algorithm Name	"Calc Cluster Detector"	4019
1.3.1.4.2	Algorithm Version	"V2.4"	4019
1.3.1.4.3		Reference to node 1.1.1	4017
1.3.1.4.4		Reference to node 1.1.2	4017
1.3.1.4.5		Reference to node 1.1.3	4017
1.3.1.4.6		Reference to node 1.1.4	4017
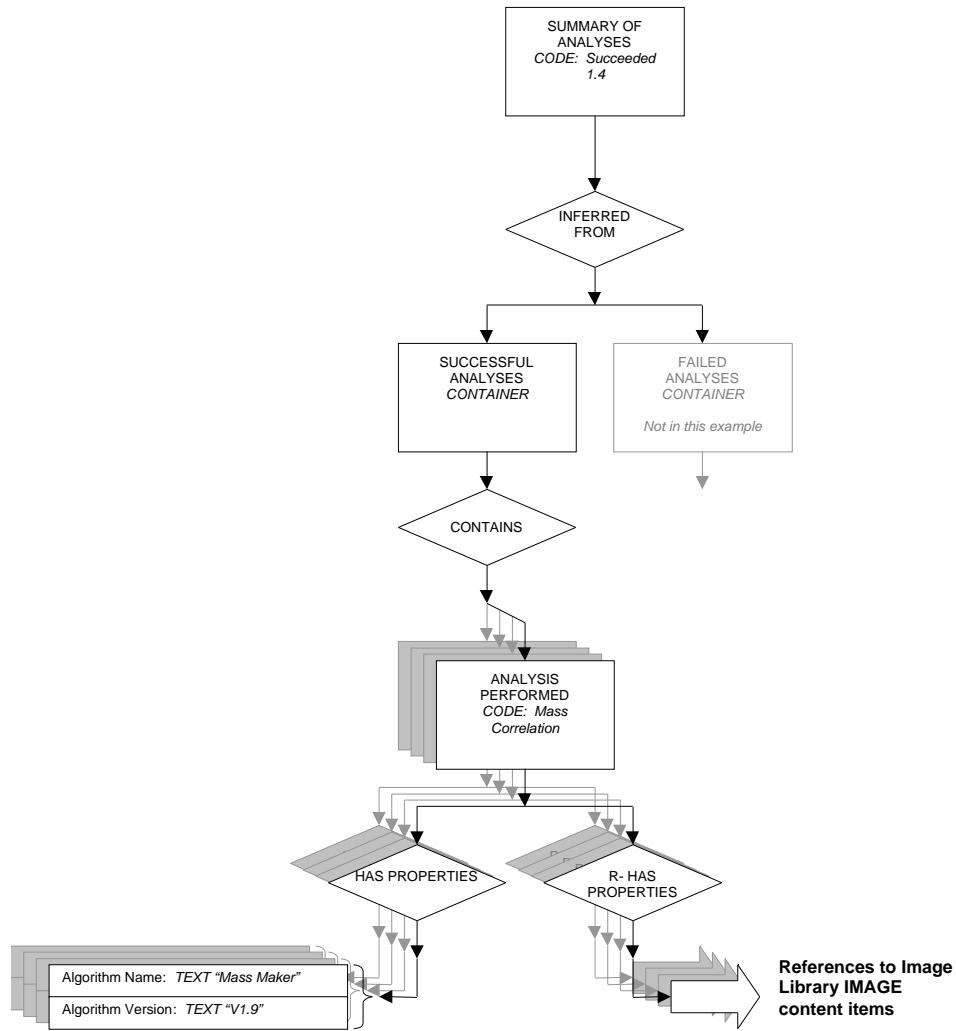
Figure x.x.x.19: Summary of Analyses Branch of Example 2 Content Tree

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.4	Summary of Analyses	Succeeded	4000
1.4.1	Successful Analyses		4016
1.4.1.1	Analysis Performed	Mass Correlation	4018
1.4.1.1.1	Algorithm Name	"Mass Maker"	4019
1.4.1.1.2	Algorithm Version	"V1.9"	4019
1.4.1.1.3		Reference to node 1.1.2	4018
1.4.1.1.4		Reference to node 1.1.4	4018

Example 3: Calcification and Mass Detection, Temporal Differencing with Findings

The patient in Example 2 returns for another mammogram. A more comprehensive mammography CAD device processes the current mammogram; analyses are performed that determine some content items for Overall and Individual Impression/Recommendations. Portions of the prior mammography CAD report (Example 2) are incorporated into this report. In the current mammogram the number of calcifications in the RCC has increased, and the size of the mass in the left breast has increased from 1 to 4 cm^2
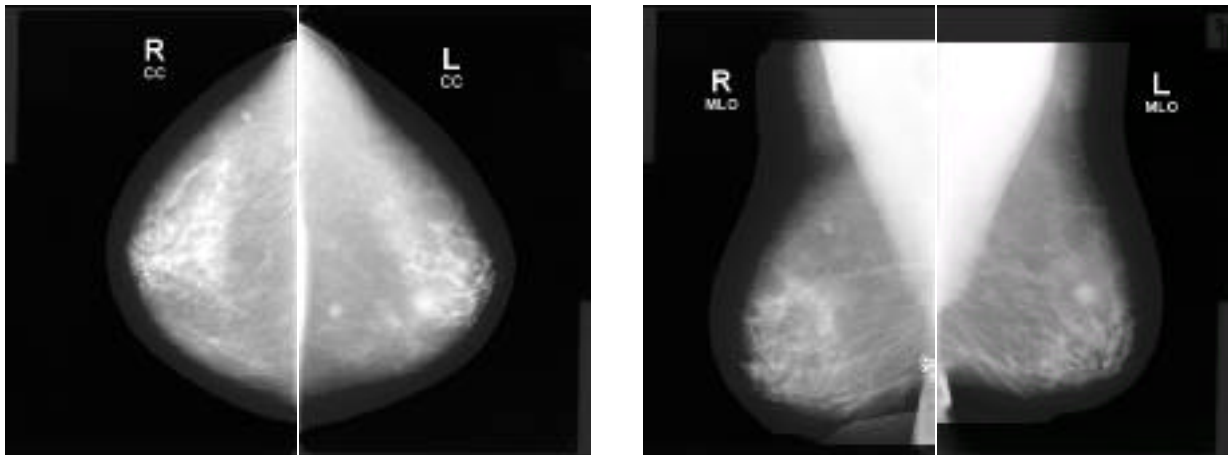
PRIOR

CURRENT
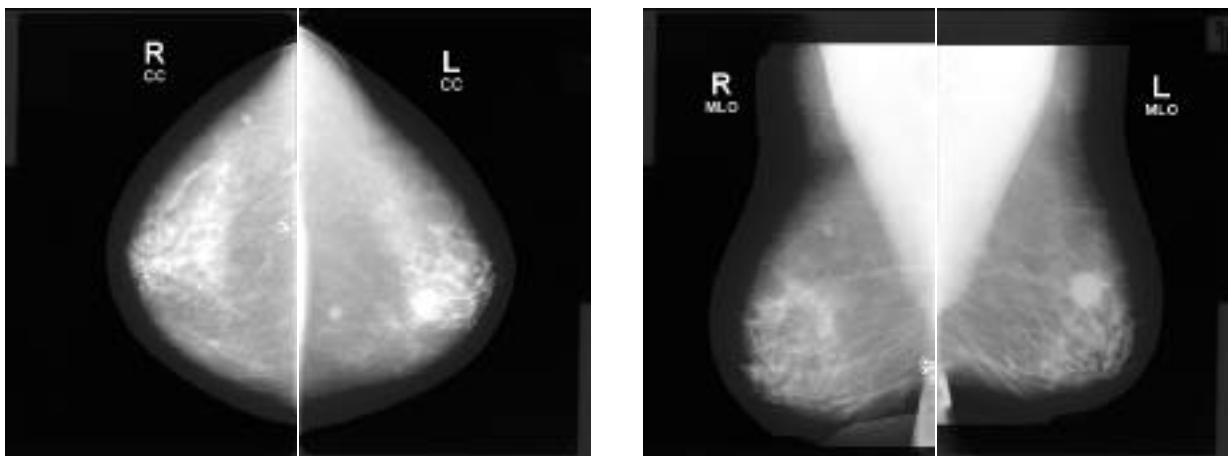
Figure x.x.x.20: Mammograms as Described in Example 3

Italicized entries *(xx)* in the following table denote references to or by-value inclusion of content tree items reused from the prior Mammography CAD SR instance (Example 2).

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1	Mammography CAD Report		4000

While the Image Library contains references to content tree items reused from the prior Mammography CAD SR instance, the images are actually used in the mammography CAD analysis and are therefore not italicized as indicated above.

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.1	Image Library		4000
1.1.1		IMAGE 1	4020
1.1.1.1	Image Laterality	Right	4020
1.1.1.2	Image View	Cranio-caudal	4020
1.1.1.3	Study Date	20000101	4020
1.1.2		IMAGE 2	4020
1.1.2.1	Image Laterality	Left	4020
1.1.2.2	Image View	Cranio-caudal	4020
1.1.2.3	Study Date	20000101	4020
1.1.3		IMAGE 3	4020
1.1.3.1	Image Laterality	Right	4020
1.1.3.2	Image View	Medio-lateral oblique	4020
1.1.3.3	Study Date	20000101	4020
1.1.4		IMAGE 4	4020
1.1.4.1	Image Laterality	Left	4020
1.1.4.2	Image View	Medio-lateral oblique	4020
1.1.4.3	Study Date	20000101	4020
1.1.5		IMAGE 5	4020
1.1.5.1	Image Laterality	Right	4020
1.1.5.2	Image View	Cranio-caudal	4020
1.1.5.3	Study Date	19990101	4020
1.1.6		IMAGE 6	4020
1.1.6.1	Image Laterality	Left	4020
1.1.6.2	Image View	Cranio-caudal	4020
1.1.6.3	Study Date	19990101	4020
1.1.7		IMAGE 7	4020
1.1.7.1	Image Laterality	Right	4020
1.1.7.2	Image View	Medio-lateral oblique	4020
1.1.7.3	Study Date	19990101	4020
1.1.8		IMAGE 8	4020
1.1.8.1	Image Laterality	Left	4020
1.1.8.2	Image View	Medio-lateral oblique	4020
1.1.8.3	Study Date	19990101	4020

Current year content:

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2	CAD Processing and Findings Summary	All algorithms succeeded; with findings	4001
1.2.1	Assessment Category	4 – Suspicious abnormality, biopsy should be considered	4002
1.2.2	Recommend Follow-up Interval	0 days	4002
1.2.3	Algorithm Name	"Mammogram Analyzer"	4019
1.2.4	Algorithm Version	"V1.0"	4019
1.2.5	Individual Impression/Recommendation		4003
1.2.5.1	Rendering Intent	Presentation Required	4003
1.2.5.2	Differential Diagnosis/Impression	Increase in size	4002
1.2.5.3	Impression Description	"Worrisome increase in size"	4002
1.2.5.4	Recommended Follow-up	Needle localization and biopsy	4002
1.2.5.5	Certainty of impression	84%	4002
1.2.5.6	Algorithm Name	"Lesion Analyzer"	4019
1.2.5.7	Algorithm Version	"V1.0"	4019
1.2.5.8	Composite Feature	Mass	4004
1.2.5.8.1	Rendering Intent	Presentation Required	4004
1.2.5.8.2	Composite type	Target content items are related temporally	4005
1.2.5.8.3	Scope of Feature	Feature was detected on multiple images	4005
1.2.5.8.4	Algorithm Name	"Temporal Change"	4019
1.2.5.8.5	Algorithm Version	"V0.1"	4019
1.2.5.8.6	Certainty of Feature	91%	4005
1.2.5.8.7	Probability of Cancer	84%	4005
1.2.5.8.8	Pathology	Lobular carcinoma in situ of breast	4005
1.2.5.8.9	Difference in Size	3 cm^2	4005
1.2.5.8.9.1		Reference to node 1.2.5.8.13.7.6	4005
1.2.5.8.9.2		Reference to node 1.2.5.8.14.8.6	4005
1.2.5.8.10	Lesion Density	High density	4005
1.2.5.8.11	Shape	Lobular	4005
1.2.5.8.12	Margins	Microlobulated	4005

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.5.8.13	Composite Feature	Mass	4004
1.2.5.8.13.1	Rendering Intent	Presentation Required	4004
1.2.5.8.13.2	Composite type	Target content items are related spatially	4005
1.2.5.8.13.3	Scope of Feature	Feature was detected on multiple images	4005
1.2.5.8.13.4	Algorithm Name	"Mass Maker"	4019
1.2.5.8.13.5	Algorithm Version	"V1.9"	4019
1.2.5.8.13.6	Single Image Finding	Density	4006
1.2.5.8.13.6.1	Rendering Intent	Presentation Required	4006
1.2.5.8.13.6.2	Algorithm Name	"Density Detector"	4019
1.2.5.8.13.6.3	Algorithm Version	"V3.7"	4019
1.2.5.8.13.6.4	Center	POINT	4021
1.2.5.8.13.6.4.1		Reference to node 1.1.2	4021
1.2.5.8.13.6.5	Outline	SCOORD	4021
1.2.5.8.13.6.5.1		Reference to node 1.1.2	4021
1.2.5.8.13.7	Single Image Finding	Density	4006
1.2.5.8.13.7.1	Rendering Intent	Presentation Required	4006
1.2.5.8.13.7.2	Algorithm Name	"Density Detector"	4019
1.2.5.8.13.7.3	Algorithm Version	"V3.7"	4019
1.2.5.8.13.7.4	Center	POINT	4021
1.2.5.8.13.7.4.1		Reference to node 1.1.4	4021
1.2.5.8.13.7.5	Outline	SCOORD	4021
1.2.5.8.13.7.5.1		Reference to node 1.1.4	4021
1.2.5.8.13.7.6	Area of Defined Region	4 cm^2	1401
1.2.5.8.13.7.6.1	Area Outline	SCOORD	1401
1.2.5.8.13.7.6. 1.1		Reference to node 1.1.4	1401

Included content from prior mammography CAD report (see Example 2, starting with node 1.2.1.2)

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.5.8.14	Composite Feature	Mass	4004
1.2.5.8.14.1	Rendering Intent	Presentation Required	4004

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.5.8.14.2	Composite type	Target content items are related spatially	4005
1.2.5.8.14.3	Scope of Feature	Feature was detected on multiple images	4005
1.2.5.8.14.4	Algorithm Name	"Mass Maker"	4019
1.2.5.8.14.5	Algorithm Version	"V1.9"	4019
1.2.5.8.14.6	[Observation Context content items]		4022
1.2.5.8.14.7	Single Image Finding	Density	4006
1.2.5.8.14.7.1	Rendering Intent	Presentation Required	4006
1.2.5.8.14.7.2	Algorithm Name	"Density Detector"	4019
1.2.5.8.14.7.3	Algorithm Version	"V3.7"	4019
1.2.5.8.14.7.4	Center	POINT	4021
1.2.5.8.14.7.4.1		Reference to node 1.1.6	4021
1.2.5.8.14.7.5	Outline	SCOORD	4021
1.2.5.8.14.7.5.1		Reference to node 1.1.6	4021
1.2.5.8.14.8	Single Image Finding	Density	4006
1.2.5.8.14.8.1	Rendering Intent	Presentation Required	4006
1.2.5.8.14.8.2	Algorithm Name	"Density Detector"	4019
1.2.5.8.14.8.3	Algorithm Version	"V3.7"	4019
1.2.5.8.14.8.4	Center	POINT	4021
1.2.5.8.14.8.4.1		Reference to node 1.1.8	4021
1.2.5.8.14.8.5	Outline	SCOORD	4021
1.2.5.8.14.8.5.1		Reference to node 1.1.8	4021
1.2.5.8.14.8.6	Area of Defined Region	1 cm^2	1401
1.2.5.8.14.8.6.1	Area Outline	SCOORD	1401
1.2.5.8.14.8.6.1.1		Reference to node 1.1.8	1401

More current year content:

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.6	Individual Impression/Recommendation		4003
1.2.6.1	Rendering Intent	Not for Presentation	4003
1.2.6.2	Single Image Finding	Density	4006
1.2.6.2.1	Rendering Intent	Not for Presentation	4006
1.2.6.2.2	Algorithm Name	"Density Detector"	4019

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.6.2.3	Algorithm Version	"V3.7"	4019
1.2.6.2.4	Center	POINT	4021
1.2.6.2.4.1		Reference to node 1.1.2	4021
1.2.6.2.5	Outline	SCOORD	4021
1.2.6.2.5.1		Reference to node 1.1.2	4021
1.2.7	Individual Impression/Recommendation	INDIVIDUAL	4003
1.2.7.1	Rendering Intent	Presentation Required	4003
1.2.7.2	Single Image Finding	Calcification Cluster	4006
1.2.7.2.1	Rendering Intent	Presentation Required	4006
1.2.7.2.2	Algorithm Name	"Calc Cluster Detector"	4019
1.2.7.2.3	Algorithm Version	"V2.4"	4019
1.2.7.2.4	Center	POINT	4021
1.2.7.2.4.1		Reference to node 1.1.3	4021
1.2.7.2.5	Outline	SCOORD	4021
1.2.7.2.5.1		Reference to node 1.1.3	4021
1.2.7.2.6	Number of Calcifications	20	4010
1.2.8	Individual Impression/Recommendation		4003
1.2.8.1	Rendering Intent	Presentation Required	4003
1.2.8.2	Differential Diagnosis/Impression	Increase in number of calcifications	4002
1.2.8.3	Impression Description	"Calcification cluster has increased in size"	4002
1.2.8.4	Recommended Follow-up	Magnification views	4002
1.2.8.5	Certainty of impression	100%	4002
1.2.8.6	Algorithm Name	"Lesion Analyzer"	4019
1.2.8.7	Algorithm Version	"V1.0"	4019
1.2.8.8	Composite Feature	Calcification Cluster	4004
1.2.8.8.1	Rendering Intent	Presentation Required	4004
1.2.8.8.2	Composite type	Target content items are related temporally	4005
1.2.8.8.3	Scope of Feature	Feature was detected on multiple images	4005
1.2.8.8.4	Algorithm Name	"Lesion Analyzer"	4019
1.2.8.8.5	Algorithm Version	"V1.0"	4019

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.8.8.6	Certainty of Feature	99%	4005
1.2.8.8.7	Probability of Cancer	54%	4005
1.2.8.8.8	Pathology	Intraductal carcinoma, low grade	4005
1.2.8.8.9	Difference in Number of calcifications	4	4005
1.2.8.8.9.1		Reference to node 1.2.8.8.12.6	4005
1.2.8.8.9.2		Reference to node 1.2.8.8.13.6	4005
1.2.8.8.10	Calcification type	Fine, linear, branching (casting)	4005
1.2.8.8.11	Calcification distribution	Grouped or clustered	4005
1.2.8.8.12	Single Image Finding	Calcification Cluster	4006
1.2.8.8.12.1	Rendering Intent	Presentation Required	4006
1.2.8.8.12.2	Algorithm Name	"Calc Clustering"	4019
1.2.8.8.12.3	Algorithm Version	"V2.4"	4019
1.2.8.8.12.4	Center	POINT	4021
1.2.8.8.12.4.1		Reference to node 1.1.1	4021
1.2.8.8.12.5	Outline	SCOORD	4021
1.2.8.8.12.5.1		Reference to node 1.1.1	4021
1.2.8.8.12.6	Number of Calcifications	6	4010
1.2.8.8.12.7	Single Image Finding	Individual Calcification	4006
1.2.8.8.12.7.1	Rendering Intent	Presentation Optional	4006
1.2.8.8.12.7.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.12.7.3	Algorithm Version	"V2.4"	4019
1.2.8.8.12.7.4	Center	POINT	4021
1.2.8.8.12.7.4.1		Reference to node 1.1.1	4021
1.2.8.8.12.7.5	Outline	SCOORD	4021
1.2.8.8.12.7.5.1		Reference to node 1.1.1	4021
1.2.8.8.12.8	Single Image Finding	Individual Calcification	4006
1.2.8.8.12.8.1	Rendering Intent	Presentation Optional	4006
1.2.8.8.12.8.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.12.8.3	Algorithm Version	"V2.4"	4019
1.2.8.8.12.8.4	Center	POINT	4021

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.8.8.12.8.4.1		Reference to node 1.1.1	4021
1.2.8.8.12.8.5	Outline	SCOORD	4021
1.2.8.8.12.8.5.1		Reference to node 1.1.1	4021
1.2.8.8.12.9	Single Image Finding	Individual Calcification	4006
1.2.8.8.12.9.1	Rendering Intent	Presentation Optional	4006
1.2.8.8.12.9.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.12.9.3	Algorithm Version	"V2.4"	4019
1.2.8.8.12.9.4	Center	POINT	4021
1.2.8.8.12.9.4.1		Reference to node 1.1.1	4021
1.2.8.8.12.9.5	Outline	SCOORD	4021
1.2.8.8.12.9.5.1		Reference to node 1.1.1	4021
1.2.8.8.12.10	Single Image Finding	Individual Calcification	4006
1.2.8.8.12.10.1	Rendering Intent	Presentation Optional	4006
1.2.8.8.12.10.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.12.10.3	Algorithm Version	"V2.4"	4019
1.2.8.8.12.10.4	Center	POINT	4021
1.2.8.8.12.10.4.1		Reference to node 1.1.1	4021
1.2.8.8.12.10.5	Outline	SCOORD	4021
1.2.8.8.12.10.5.1		Reference to node 1.1.1	4021
1.2.8.8.12.11	Single Image Finding	Individual Calcification	4006
1.2.8.8.12.11.1	Rendering Intent	Presentation Optional	4006
1.2.8.8.12.11.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.12.11.3	Algorithm Version	"V2.4"	4019
1.2.8.8.12.11.4	Center	POINT	4021
1.2.8.8.12.11.4.1		Reference to node 1.1.1	4021
1.2.8.8.12.11.5	Outline	SCOORD	4021
1.2.8.8.12.11.5.1		Reference to node 1.1.1	4021
1.2.8.8.12.12	Single Image Finding	Individual Calcification	4006
1.2.8.8.12.12.1	Rendering Intent	Presentation Optional	4006

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.8.8.12.12.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.12.12.3	Algorithm Version	"V2.4"	4019
1.2.8.8.12.12.4	Center	POINT	4021
1.2.8.8.12.12.4.1		Reference to node 1.1.1	4021
1.2.8.8.12.12.5	Outline	SCOORD	4021
1.2.8.8.12.12.5.1		Reference to node 1.1.1	4021

Included content from prior mammography CAD report (see Example 2, starting with node 1.2.4.2)

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.8.8.13	Single Image Finding	Calcification Cluster	4006
1.2.8.8.13.1	Rendering Intent	Presentation Required	4006
1.2.8.8.13.2	Algorithm Name	"Calc Clustering"	4019
1.2.8.8.13.3	Algorithm Version	"V2.4"	4019
1.2.8.8.13.4	Center	POINT	4021
1.2.8.8.13.4.1		Reference to node 1.1.5	4021
1.2.8.8.13.5	Outline	SCOORD	4021
1.2.8.8.13.5.1		Reference to node 1.1.5	4021
1.2.8.8.13.6	Number of Calcifications	2	4010
1.2.8.8.13.7	[Observation Context content items]		4022
1.2.8.8.13.8	Single Image Finding	Individual Calcification	4006
1.2.8.8.13.8.1	Rendering Intent	Presentation Optional	4006
1.2.8.8.13.8.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.13.8.3	Algorithm Version	"V2.4"	4019
1.2.8.8.13.8.4	Center	POINT	4021
1.2.8.8.13.8.4.1		Reference to node 1.1.5	4021
1.2.8.8.13.8.5	Outline	SCOORD	4021
1.2.8.8.13.8.5.1		Reference to node 1.1.5	4021
1.2.8.8.13.9	Single Image Finding	Individual Calcification	4006
1.2.8.8.13.9.1	Rendering Intent	Presentation Optional	4006
1.2.8.8.13.9.2	Algorithm Name	"Calc Detector"	4019
1.2.8.8.13.9.3	Algorithm Version	"V2.4"	4019
1.2.8.8.13.9.4	Center	POINT	4021

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.2.8.8.13.9.4.1		Reference to node 1.1.5	4021
1.2.8.8.13.9.4	Outline	SCOORD	4021
1.2.8.8.13.9.4.1		Reference to node 1.1.5	4021

More current year content:

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.3	Summary of Detections	Succeeded	4000
1.3.1	Successful Detections		4015
1.3.1.1	Detection Performed	Density	4017
1.3.1.1.1	Algorithm Name	"Density Detector"	4019
1.3.1.1.2	Algorithm Version	"V3.7"	4019
1.3.1.1.3		Reference to node 1.1.1	4017
1.3.1.1.4		Reference to node 1.1.2	4017
1.3.1.1.5		Reference to node 1.1.3	4017
1.3.1.1.6		Reference to node 1.1.4	4017
1.3.1.2	Detection Performed	Individual Calcification	4017
1.3.1.2.1	Algorithm Name	"Calc Detector"	4019
1.3.1.2.2	Algorithm Version	"V2.4"	4019
1.3.1.2.3		Reference to node 1.1.1	4017
1.3.1.2.4		Reference to node 1.1.2	4017
1.3.1.2.5		Reference to node 1.1.3	4017
1.3.1.2.6		Reference to node 1.1.4	4017
1.3.1.3	Detection Performed	Calcification Cluster	4017
1.3.1.3.1	Algorithm Name	"Calc Clustering"	4019
1.3.1.3.2	Algorithm Version	"V2.4"	4019
1.3.1.3.3		Reference to node 1.1.1	4017
1.3.1.4	Detection Performed	Calcification Cluster	4017

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.3.1.4.1	Algorithm Name	"Calc Cluster Detector"	4019
1.3.1.4.2	Algorithm Version	"V2.4"	4019
1.3.1.4.3		Reference to node 1.1.1	4017
1.3.1.4.4		Reference to node 1.1.2	4017
1.3.1.4.5		Reference to node 1.1.3	4017
1.3.1.4.6		Reference to node 1.1.4	4017
1.4	Summary of Analyses	Succeeded	4000
1.4.1	Successful Analyses		4016
1.4.1.1	Analysis Performed	Mass Correlation	4018
1.4.1.1.1	Algorithm Name	"Mass Maker"	4019
1.4.1.1.2	Algorithm Version	"V1.9"	4019
1.4.1.1.3		Reference to node 1.1.2	4018
1.4.1.1.4		Reference to node 1.1.4	4018
1.4.1.2	Analysis Performed	Temporal Correlation	4018
1.4.1.2.1	Algorithm Name	"Temporal Change"	4019
1.4.1.2.2	Algorithm Version	"V0.1"	4019
1.4.1.2.3		Reference to node 1.1.2	4018
1.4.1.2.4		Reference to node 1.1.4	4018
1.4.1.2.5		Reference to node 1.1.6	4018
1.4.1.2.6		Reference to node 1.1.8	4018
1.4.1.3	Analysis Performed	Individual Impression / Recommendation Analysis	4018
1.4.1.3.1	Algorithm Name	"Lesion Analyzer"	4019
1.4.1.3.2	Algorithm Version	"V1.0"	4019
1.4.1.3.3		Reference to node 1.1.2	4018
1.4.1.3.4		Reference to node 1.1.4	4018

Node	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.4.1.3.5		Reference to node 1.1.6	4018
1.4.1.3.6		Reference to node 1.1.8	4018
1.4.1.4	Analysis Performed	Overall Impression / Recommendation Analysis	4018
1.4.1.4.1	Algorithm Name	"Mammogram Analyzer"	4019
1.4.1.4.2	Algorithm Version	"V1.0"	4019
1.4.1.4.3		Reference to node 1.1.2	4018
1.4.1.4.4		Reference to node 1.1.4	4018
1.4.1.4.5		Reference to node 1.1.6	4018
1.4.1.4.6		Reference to node 1.1.8	4018

Part 4 Addendum

Add the following to PS 3.4 Section 4 Symbols and Abbreviations

Mammography CAD   Computer-Aided Detection and/or Computer-Aided Diagnosis for Mammography

Update Annex B and I SOP Class tables

Add Mammography CAD SR Storage SOP Class to Table B.5-1

B.5 STANDARD SOP CLASSES

SOP Class Name	SOP Class UID	IOD (See PS 3.3)
Mammography CAD SR	1.2.840.10008.5.1.4.1.1.88.50	Mammography CAD SR IOD

B.5.1.5 Structured Reporting Storage SOP Classes

For SOP classes Basic Text SR, Enhanced SR, Comprehensive SR and Mammography CAD SR, see Annex O.

Add Mammography CAD SR Storage Media Storage SOP Classes to Table I.4-1

I.4 MEDIA STANDARD STORAGE SOP CLASSES

SOP Class Name	SOP Class UID	IOD (See PS 3.3)
Mammography CAD SR	1.2.840.10008.5.1.4.1.1.88.50	Mammography CAD SR IOD

Update Annex O Structured Reporting Storage SOP Class

O.1   OVERVIEW

…

O.X   BEHAVIOR OF AN SCU

O.X.1   Mammography CAD SR SOP Class

Rendering Intent concept modifiers in the Mammography CAD SR object shall be consistent. Content items marked "For Presentation" shall not be subordinate to content items marked "Not for Presentation" or "Presentation Optional" in the content tree. Similarly, content items marked "Presentation Optional" shall not be subordinate to content items marked "Not for Presentation" in the content tree.

Content items referenced from another SR object instance, such as a prior Mammography CAD SR, shall be inserted by-value in the new SR object instance, with appropriate original source observation context. It is necessary to update Rendering Intent, and referenced content item identifiers for by-reference relationships, within content items paraphrased from another source.

O.2   BEHAVIOR OF AN SCP

…

O.2.x   Mammography CAD SR SOP Class

The Mammography CAD SR object contains data not only for presentation to the clinician, but also data solely for use in subsequent mammography CAD analyses.

The SCU provides rendering guidelines via "Rendering Intent" concept modifiers associated with "Individual Impression/Recommendation", "Composite Feature" and "Single Image Finding" content items. The full meaning of the SR is provided if all content items marked "Presentation Required" are rendered down to the first instance of "Not for Presentation" or "Presentation Optional" for each branch of the tree. Use of the SCU's Conformance Statement is recommended if further enhancement of the meaning of the SR can be accomplished by rendering some or all of the data marked "Presentation Optional". Data marked "Not for Presentation" should not be rendered by the SCP; it is embedded in the SR content tree as input to subsequent Mammography CAD analysis work steps.

O.4   CONFORMANCE

…

O.4.1   Conformance Statement for an SCU

…

O.4.1.x Mammography CAD SR SOP Class

The following shall be documented in the Conformance Statement of any implementation claiming conformance to the Mammography CAD SR SOP Class as an SCU:

- Which types of detections and/or analyses the device is capable of performing:

    - From detections listed in Context Group 6014 Mammography Single Image Finding

    - From analyses listed in Context Group 6043 Types of Mammography CAD Analysis

- Which optional content items are supported

- Conditions under which content items are assigned Rendering Intent of "Presentation Optional"

- Conditions under which content items are assigned Rendering Intent of "Not for Presentation"

O.4.2   Conformance Statement for an SCP

…

O.4.2.x Mammography CAD SR SOP Class

The following shall be documented in the Conformance Statement of any implementation claiming conformance to the Mammography CAD SR SOP Class as an SCP:

- Conditions under which the SCP will render content items with Rendering Intent concept modifier set to "Presentation Optional"

Part 6 Addendum

ANNEX A (NORMATIVE): REGISTRY OF DICOM UNIQUE IDENTIFIERS (UID)

Add the following UIDs to Part 6 Annex A:

UID Value	UID NAME	UID TYPE	Part
1.2.840.10008.5.1.4.1.1.88.50	Mammography CAD SR	SOP Class	3.4

Part 16 Addendum

Add the following to PS 3.16 Section 2 Normative References

BI-RADS™ Terminology and Nomenclature

Terminology used within the Mammography CAD SR SOP Class is a superset of BI-RADS™ Third Edition, with Addendum 3.1, a copyrighted lexicon of Mammography screening terminology and nomenclature licensed by DICOM from the American College of Radiology. BI-RADS™ publications are available from the American College of Radiology (http://www.acr.org). The DICOM Standard does not require Mammography CAD SR SOP Class implementations to adhere to BI-RADS™.

MQCM 1999 Terminology and Nomenclature

References to MQCM 1999 are made in the description of the Mammography CAD SR SOP Class. In this MQCM 1999 refers to the Mammography Quality Control Manual 1999, available from the American College of Radiology. This document describes a standardized approach to mammographic acquisition standards, patient positioning, and so on. The DICOM standard does not require Mammography CAD SR SOP Class implementations to adhere to MQCM 1999.

MQSA Terminology and Nomenclature

References to MQSA are made in the description of the Mammography CAD SR SOP Class. In this MQSA refers to the Mammography Quality Standards Act final rules. While MQSA is a federal regulation of the United States government, it provides the only widely published standards for mammographic quality and is incorporated in this document for that reason. The DICOM standard does not require Mammography CAD SR SOP Class implementations to adhere to MQSA.

Add the following to PS 3.16 Section 4 Symbols and Abbreviations

Mammography CAD   Computer-Aided Detection and/or Computer-Aided Diagnosis for Mammography

Add the following to PS 3.16 Section 8 Coding Schemes

Table 8-1 Coding Schemes

Coding Scheme Designator	Description
BI	ACR Breast Imaging Reporting and Data System (BI-RADS™), Coding Scheme Version (0008,0103) is required; code values are section and paragraph identifiers within the publication where the code meaning is defined (e.g., "I.D.1", where I = Breast Imaging Lexicon, D = Special Cases, 1 = Tubular Density, as the code value for "Tubular Density").

Add the following Templates to Part 16 Annex A DCMR Templates (Normative):

Annex A   DCMR Templates (Normative)

A.X: MAMMOGRAPHY CAD SR IOD TEMPLATES

The templates that comprise the Mammography CAD SR IOD are interconnected as in Figure x.1-1:
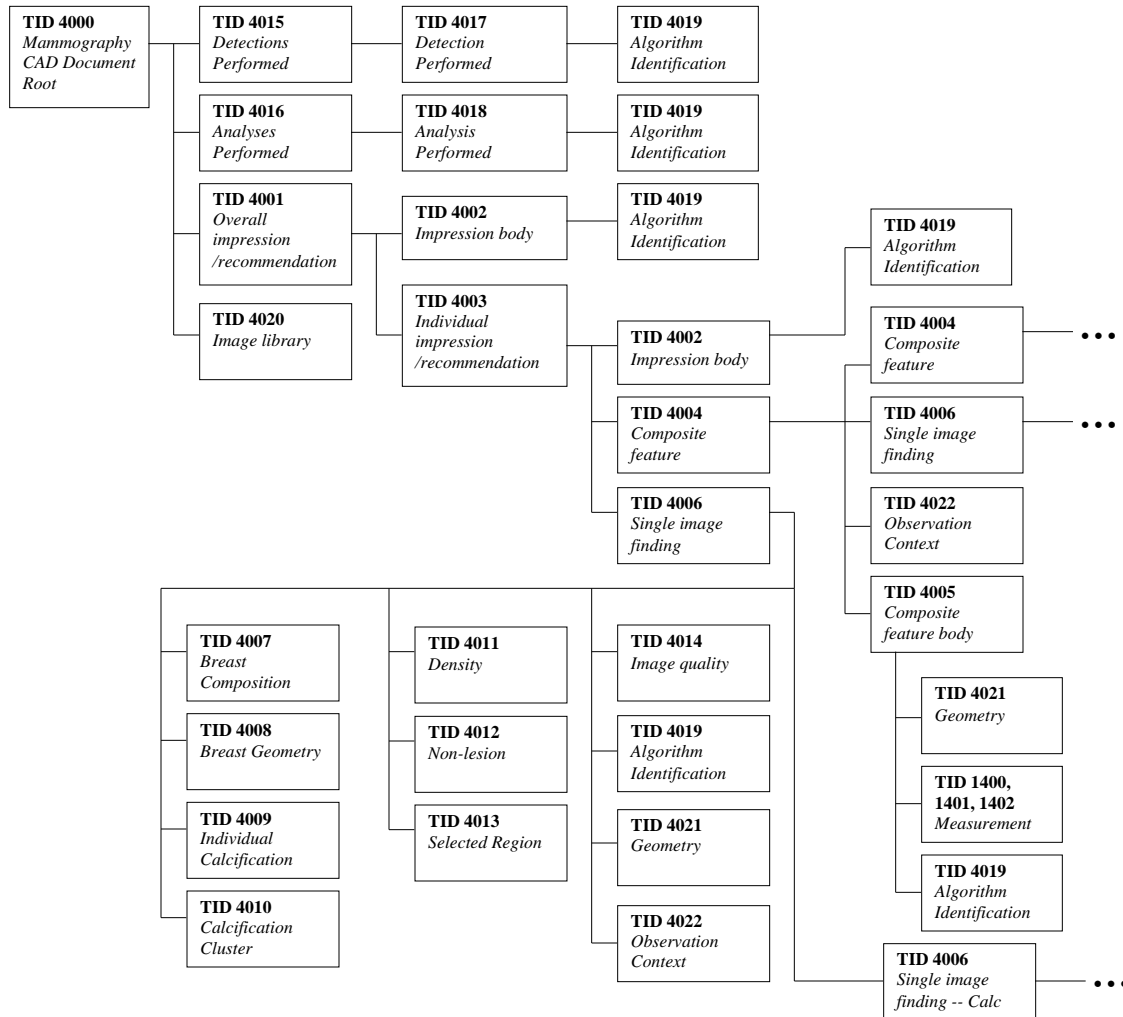

Figure x.1-1: Mammography CAD SR IOD Template Structure

In Figure x.1-1, '• • •' indicates possible recursive application of subordinate templates.

TID 4000   Mammography CAD Document Root Template

This template forms the top of a content tree that allows a mammography CAD device to describe the results of detection and analysis of Mammographic evidence. This template, together with its subordinate templates, describes both the results for presentation to radiologists and partial product results for consumption by mammography CAD devices in subsequent mammography CAD reports.

This template defines a Container which contains an Image Library, the mammography CAD results, and summaries of the detection and analysis algorithms performed. The Image Library contains the Image SOP Class and Instance UIDs, and selected attributes for each image referenced in either the algorithm summaries or mammography CAD results.

The Summary of Detections and Summary of Analyses sub-trees gather lists of algorithms attempted, grouped by success/failure status. Algorithms not attempted are not mentioned in these sub-trees. This information forms the basis for understanding why a mammography CAD report may produce no (or fewer than anticipated) results. Mammography CAD results are constructed bottom-up, starting from Single Image Findings (see Template 4006), associated as Composite Features (see Template 4004), and from which Individual and Overall Impressions are formed.

See the figure entitled "Top Levels of Mammography CAD SR Content Tree" in the "Mammography CAD SR Content Tree Structure" Annex of PS 3.3.

TID 4000
MAMMOGRAPHY CAD DOCUMENT ROOT

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	(111036, DCM, "Mammography CAD Report")	1	M		
2	>	HAS CONCEPT MOD	INCLUDE	ETID (1204) "Language of Content Item and Descendants"	1	M		
3	>	CONTAINS	CONTAINER	(111028, DCM, "Image Library")	1	M		
4	>>	CONTAINS	INCLUDE	ETID (4020) "Mammography CAD Image Library Entry"	1-n	M		
5	>	CONTAINS	INCLUDE	ETID (4001) "Mammography CAD Overall Impression / Recommendation"	1	M		
6	>	CONTAINS	CODE	(111064, DCM, "Summary of Detections")	1	M		ECID (6042) "Status of Results"
7	>>	INFERRED FROM	INCLUDE	ETID (4015) "Mammography CAD Detections Performed"	1	MC	Shall be present unless the value of (111064, DCM, "Summary of Detections") is (111225, DCM, "Not Attempted")	
8	>	CONTAINS	CODE	(111065, DCM, "Summary of Analyses")	1	M		ECID (6042) "Status of Results"
9	>>	INFERRED FROM	INCLUDE	ETID (4016) "Mammography CAD Analyses Performed"	1	MC	Shall be present unless the value of (111065, DCM, "Summary of Analyses") is (111225, DCM, "Not Attempted")	

Content Item Descriptions

Image Library	The "Image Library" section of the Content Tree (TID 4000, row 3) shall include all Image SOP Instances from the Current Requested Procedure Evidence Sequence (0040,A375) attribute of the SR Document General module. If a portion of another instance of a Mammography CAD SR IOD is duplicated in the "Overall Impression/ Recommendation" section of the Content Tree, the "Image Library" shall also include all Image Library Entries referenced from the duplicated portions of the Mammography CAD SR.
Detections Performed	The "Detections Performed" and "Analyses Performed" sections of the Content Tree (TID 4000, rows 6 and 8) together shall reference all Image SOP Instances included in the Current Requested Procedure Evidence Sequence (0040,A375) attribute of the SR Document General module.
Analyses Performed	

TID 4001   Mammography CAD Overall Impression/Recommendation Template

This template forms the top of the mammography CAD results sub-tree. The contents of this template describe the overall impression the mammography CAD device had for the mammographic evidence presented and any recommendations that the mammography CAD device made. The details of the overall impression and recommendation are expressed in this instance of the Mammography CAD Impression/Recommendation Body (see TID 4002). The data from which the details are inferred, are expressed in the Mammography CAD Individual Impression/Recommendations (see TID 4003), of which there may be several.

TID 4001
MAMMOGRAPHY CAD OVERALL IMPRESSION/RECOMMENDATION

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111017, DCM, "CAD Processing and Findings Summary")	1	M		ECID (6047) "CAD Processing and Findings Summary"
2	>	HAS PROP	INCLUDE	ETID (4002) "Mammography CAD Impression/Recommendation Body"	1	U		
3	>	INFERRED FROM	INCLUDE	ETID (4003) "Mammography CAD Individual Impression/Recommendation"	1-n	MC	Shall be present if 1 or more (111059, DCM, "Single Image Finding") or (111015, DCM, "Composite Feature") content items are reported.	

Content Item Descriptions

| CAD Processing and Findings Summary | This code value is used to express if and why the Overall Impression/Recommendation sub-tree is empty. The Summary of Detections and Summary of Analyses sub-trees of the Document Root node contain detail about which (if any) algorithms succeeded or failed.

If the code value indicates that there were no findings, then the code value can be used to determine whether mammography CAD processing occurred successfully, without parsing the Summary of Detections and Summary of Analyses sub-trees. |
|---|---|

TID 4002   Mammography CAD Impression/Recommendation Body Template

The details of an impression and recommendation are expressed in this template. It is applied to both Mammography CAD Overall Impression/Recommendation (TID 4001) and Mammography CAD Individual Impression/Recommendation (TID 4003).

TID 4002
MAMMOGRAPHY CAD IMPRESSION/RECOMMENDATION BODY

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111005, DCM, "Assessment Category")	1	MC	At least one of rows 1, 2, 3, 4, 5, 6 shall be present.	DCID (6026) "Mammography Assessment"
2			CODE	(111023, DCM, "Differential Diagnosis/ Impression")	1-n	MC	At least one of rows 1, 2, 3, 4, 5, 6 shall be present.	DCID (6002) "Change Since Last Mammogram or Prior Surgery"
3			TEXT	(111033, DCM, "Impression Description")	1	MC	At least one of rows 1, 2, 3, 4, 5, 6 shall be present.	
4			CODE	(111053, DCM, "Recommended Follow-up")	1-n	MC	At least one of rows 1, 2, 3, 4, 5, 6 shall be present.	DCID (6028) "Mammography Recommended Follow-up"
5			NUM	(111055, DCM, "Recommended Follow-up Interval")	1	MC	At least one of rows 1, 2, 3, 4, 5, 6 shall be present. May be present only if (111054, DCM, "Recommended Follow-up Date") is not present.	UNITS = DCID (6046) "Units of Follow-up Interval"; Values = Integer≥ 0, where 0 = immediate follow-up
6			DATE	(111054, DCM, "Recommended Follow-up Date")	1	MC	At least one of rows 1, 2, 3, 4, 5, 6 shall be present. May be present only if (111055, DCM, "Recommended Follow-up Interval") is not present.	Shall be later than date of exam
7			NUM	(111013, DCM, "Certainty of impression")	1	UC	May be present only if (111005, DCM, "Assessment Category") (111023, DCM, "Differential Diagnosis/Impression") or (111033, DCM, "Impression Description") is present.	UNITS = (%, UCUM, "Percent") Values = 0 – 100
8			INCLUDE	ETID (4019) "CAD Algorithm Identification"	1-n	M		

Content Item Descriptions

Certainty of Impression	The certainty that the device populating the Mammography CAD SR report places on this impression, where 0 equals no certainty and 100 equals certainty.
Impression Description	Free-form text describing the overall or an individual impression

TID 4003   Mammography CAD Individual Impression/Recommendation Template

This template collects an individual impression the mammography CAD device had for a lesion, non-lesion object, or correlation of related objects. The details of the impression and recommendation are expressed in the Mammography CAD Impression/Recommendation Body (see TID 4002). The data from which the details are inferred are expressed in the Composite Features (see TID 4004) and/or Single Image Findings (see TID 4006) of which there may be several.

The sub-tree headed by this template is illustrated in Figure x.x.x.3 of Part 3, Annex X (Mammography CAD SR Content Tree Structure).

TID 4003
MAMMOGRAPHY CAD INDIVIDUAL IMPRESSION/RECOMMENDATION

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	(111034, DCM, "Individual Impression/ Recommendation")	1	M		
2	>	HAS CONCEPT MOD	CODE	(111056, DCM, "Rendering Intent")	1	M		ECID (6034) "Intended Use of CAD Output"
3	>	CONTAINS	INCLUDE	ETID (4002) "Mammography CAD Impression / Recommendation Body"	1	U		
4	>	CONTAINS	INCLUDE	ETID (4004) "Mammography CAD Composite Feature"	1-n	MC	At least one of rows 4, 5 shall be present.	
5	>	CONTAINS	INCLUDE	ETID (4006) "Mammography CAD Single Image Finding"	1-n	MC	At least one of rows 4, 5 shall be present.	

Content Item Descriptions

Rendering Intent	This content item constrains the SCP receiving the Mammography CAD SR IOD in its use of the contents of this template and its target content items. Mammography CAD devices may opt to use data marked "Not for Presentation" or "Presentation Optional" as input to subsequent mammography CAD processing steps. Refer to PS 3.4, Annex O Structured Reporting Standard SOP Classes for SCU and SCP Behavior.

TID 4004   Mammography CAD Composite Feature Template

This template collects a composite feature for a lesion, non-lesion object, or correlation of related objects. The details of the composition are expressed in the Mammography CAD Composite Feature Body (see TID 4005). The data from which the details are inferred, are expressed in the Composite Features (see TID 4004) and/or Single Image Findings (see TID 4006), of which there may be several.

A Composite Feature shall be INFERRED FROM any combination of two or more Composite Features or Single Image Findings or mixture thereof.

TID 4004
MAMMOGRAPHY CAD COMPOSITE FEATURE

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111015, DCM, "Composite Feature")	1	M		DCID (6016) "Mammography Composite Feature"
2	>	HAS CONCEPT MOD	CODE	(111056, DCM, "Rendering Intent")	1	M		ECID (6034) "Intended Use of CAD Output"
3	>	HAS PROP	INCLUDE	ETID (4005) "Mammography CAD Composite Feature Body"	1	M		
4	>	INFERRED FROM	INCLUDE	ETID (4004) "Mammography CAD Composite Feature"	1-n	MC	At least two items shall be present: two of row 4, two of row 5, or one of each.	
5	>	INFERRED FROM	INCLUDE	ETID (4006) "Mammography CAD Single Image Finding"	1-n	MC	At least two items shall be present: two of row 4, two of row 5, or one of each.	
6	>	HAS OBS CONTEXT	INCLUDE	ETID (4022) "CAD Observation Context"	1	MC	Shall be present only if this feature is incorporated from a different report than its parent	

Content Item Descriptions

Rendering Intent	This content item constrains the SCP receiving the Mammography CAD SR IOD in its use of the contents of this template and its target content items. Mammography CAD devices may opt to use data marked "Not for Presentation" or "Presentation Optional" as input to subsequent mammography CAD processing steps. Refer to PS 3.4, Annex O Structured Reporting Standard SOP Classes for SCU and SCP Behavior.

TID 4005   Mammography CAD Composite Feature Body Template

The details of a composite feature are expressed in this template. It is applied to Mammography CAD Composite Feature (TID 4004).

TID 4005
MAMMOGRAPHY CAD COMPOSITE FEATURE BODY

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111016, DCM, "Composite type")	1	M		ECID (6035) "Composite Feature Relations ". The value shall be (111155, DCM, "Target content items are related contra-laterally") if the parent content item has code value (F-01792, SRT, "Focal asymmetric breast tissue") or (F-01793, SRT, "Asymmetric breast tissue").
2			CODE	(111057, DCM, "Scope of Feature")	1	M		ECID (6036) "Scope of Feature"
3			INCLUDE	ETID (4019) "CAD Algorithm Identification"	1	M		
4			NUM	(111011, DCM, "Certainty of Feature")	1	U		UNITS = (%, UCUM, "Percent") Value = 0 – 100
5			NUM	(111047, DCM, "Probability of cancer")	1	UC	May be present only if value of parent is not (111102, DCM, "Non-lesion")	UNITS = (%, UCUM, "Percent") Value = 0 – 100
6			CODE	(111042, DCM, "Pathology")	1-n	U		BCID (6030) "Mammography Pathology Codes"
7			INCLUDE	DTID (1400) "Linear Measurement"	1-n	U		The by-reference relationship the IMAGE in TID (1400) "Linear Measurement" shall b used.
8			INCLUDE	DTID (1401) "Area Measurement"	1-n	U		The by-reference relationship the IMAGE in TID (1401) "Area Measurement" shall be used.
9			INCLUDE	DTID (1402) "Volume Measurement"	1-n	U		The by-reference relationship the IMAGE in TID (1402) "Volume Measurement" shall be used.
10			INCLUDE	ETID (4021) "Mammography CAD Geometry"	1-n	U		
11			NUM	DCID (6037) "Mammography Quantitative Temporal Difference Type"	1-n	UC	May be present only if the value of (111016, DCM, "Composite type") is (111153, DCM, "Target content items are related temporally")	UNITS = DCID (7460) "Units of Linear Measurement", DCID (7461) "Units of Area Measurement", DCID (7462) "Units of Volume Measurement or (1, UCUM, "Unity")
12	>	R-INFERRED FROM	NUM		2	U		The referenced numeric values shall have the same Concept Name. Their UNITS shall be the same as row 11
13			CODE	(111049, DCM, "Qualitative Difference")	1-n	UC	May be present only if the value of (111016, DCM, "Composite type") is (111153, DCM, "Target content items are related temporally")	DCID (6038) "Mammography Qualitative Temporal Difference Type"

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
14	>	HAS PROP	TEXT	(111021, DCM, "Description of Change")	1	U		
15	>	R-INFERRED FROM	CODE		2	M		The referenced code values shall have the same Concept Name and be from the same context group.
16			CODE	(111048, DCM, "Quadrant location")	1	U		DCID (6020) "Quadrant Location"
17			CODE	(111014, DCM, "Clockface or region")	1	U		DCID (6018) "Clockface Location"
18			CODE	(111020, DCM, "Depth")	1	U		DCID (6024) "Depth"
19			CODE	(111035, DCM, "Lesion Density")	1	UC	May be present only if value of parent is (F-01791, SRT, "Mammographic breast mass") or (111103, DCM, "Density")	DCID (6008) "Density Modifier"
20			CODE	(M-020F9, SNM3, "Shape")	1	UC	May be present only if value of parent is (F-01791, SRT, "Mammographic breast mass") or (111103, DCM, "Density")	DCID (6004) "Mammography Characteristics of Shape"
21			CODE	(111037, DCM, "Margins")	1-n	UC	May be present only if value of parent is (F-01791, SRT, "Mammographic breast mass") or (111103, DCM, "Density")	DCID (6006) "Mammography Characteristics of Margin"
22			CODE	(111009, DCM, "Calcification Type")	1-n	UC	May be present only if value of parent is (111105, DCM, "Calcification Cluster") or (111104, DCM, "Individual Calcification")	DCID (6010) "Mammography Calcification Types"
23			CODE	(111008, DCM, "Calcification Distribution")	1	UC	May be present only if value of parent is (111105, DCM, "Calcification Cluster")	DCID (6012) "Calcification Distribution Modifier"
24			NUM	(111038, DCM, "Number of calcifications")	1	UC	May be present only if value of parent is (111105, DCM, "Calcification Cluster")	UNITS = (1, UCUM, "Unity") Value = Integer 1 – n

Content Item Descriptions

Certainty of Feature	The likelihood that the feature analyzed, and classified by the CODE specified in the Composite Feature parent template, is in fact that type of feature.
Volume Measurement	If dimensions for a volume are to be stated in terms of length, width, and depth, then one shall use 3 instances of TID (1400) Linear Measurement.
Row 11	Values $\leq$ 0 are allowed. The two referenced numeric values are target content items of the first generation Composite Feature or Single Image Finding children of this composite feature. Given the equation, A – B, the value representing A shall be referenced first.
Qualitative Difference	The two referenced code values are target content items of the first generation Composite Feature or Single Image Finding children of this composite feature.

TID 4006   Mammography CAD Single Image Finding Template

This template describes a single image finding for a lesion or other object. The details of the finding are expressed in this template and/or more specific templates. The details from which a single image Calcification Cluster is inferred may be expressed in a number of Single Image Findings (see TID 4006) of type Individual Calcification.

A Single Image Finding of type Breast Composition may be INFERRED FROM by-reference to a Single Image Finding of type Breast Geometry.

TID 4006
MAMMOGRAPHY CAD SINGLE IMAGE FINDING

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111059, DCM, "Single Image Finding")	1	M		DCID (6014) "Mammography Single Image Finding"
2	>	HAS CONCEPT MOD	CODE	(111056, DCM, "Rendering Intent")	1	M		ECID (6034) "Intended Use of CAD Output"
3	>	HAS PROP	INCLUDE	ETID (4019) "CAD Algorithm Identification"	1	M		
4	>	HAS PROP	NUM	(111012, DCM, "Certainty of Finding")	1	U		UNITS = (%, UCUM, "Percent") Value = 0 – 100
5	>	HAS PROP	NUM	(111047, DCM, "Probability of cancer")	1	UC	May be present unless value of parent is (111006, DCM, "Breast composition"), (111100, DCM, "Breast geometry"), (T-04100, SNM3, "Nipple"), (111099, DCM, "Selected region"), (111101, DCM, "Image quality") or (111102, DCM, "Non-lesion")	UNITS = (%, UCUM, "Percent") Value = 0 – 100
6	>	HAS PROP	INCLUDE	ETID (4021) "Mammography CAD Geometry"	1	MC	Shall be present unless value of parent is (111006, DCM, "Breast composition"), (111100, DCM, "Breast geometry") or (111101, DCM, "Image quality")	
7	>	HAS PROP	INCLUDE	ETID (4007) "Mammography CAD Breast Composition"	1	MC	Shall be present only if value of parent is (111006, DCM, "Breast composition")	
8	>	R-INFERRED FROM	CODE		1-n	UC	May be present only if value of parent is (111006, DCM, "Breast composition")	Shall reference a (111059, DCM, "Single Image Finding") of value: EV (111100, DCM, "Breast geometry")
9	>	HAS PROP	INCLUDE	ETID (4008) "Mammography CAD Breast Geometry"	1	MC	Shall be present only if value of parent is (111100, DCM, "Breast geometry")	
10	>	HAS PROP	INCLUDE	ETID (4009) "Mammography CAD Individual Calcification"	1	UC	May be present only if value of parent is (111104, DCM, "Individual Calcification")	
11	>	HAS PROP	INCLUDE	ETID (4010) "Mammography CAD Calcification Cluster"	1	UC	May be present only if value of parent is (111105, DCM, "Calcification Cluster")	
12	>	HAS PROP	INCLUDE	ETID (4011) "Mammography CAD Density"	1	UC	May be present only if value of parent is (111103, DCM, "Density")	
13	>	HAS PROP	CODE	(111297,DCM, "Nipple Characteristic")	1	UC	May be present only if value of parent is (T-04100, SNM3, "Nipple")	DCID (6039) "Nipple Characteristic"

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
14	>	HAS PROP	INCLUDE	ETID (4012) "Mammography CAD Non-Lesion"	1	MC	Shall be present only if value of parent is (111102, DCM, "Non-lesion")	
15	>	HAS PROP	INCLUDE	ETID (4013) "Mammography CAD Selected Region"	1	MC	Shall be present only if value of parent is (111099, DCM, "Selected Region")	
16	>	R-HAS PROP	IMAGE		1	MC	Shall be present only if value of parent is (111101, DCM, "Image quality") and row 17 is not present	Shall reference an IMAGE content item in the (111028, DCM, "Image Library")
17	>	R-HAS PROP	SCOORD	(111030, DCM, "Image Region")	1-n	MC	Shall be present only if value of parent is (111101, DCM, "Image quality") and row 16 is not present	
18	>>	R-SELECTED FROM	IMAGE		1	M		All the (111030, DCM, "Image Region") content items in a single invocation of this template shall reference the same IMAGE content item in the (111028, DCM, "Image Library")
19	>	HAS PROP	INCLUDE	ETID (4014) "Mammography CAD Image Quality"	1-n	MC	Shall be present only if value of parent is (111101, DCM, "Image quality")	
20	>	INFERRED FROM	INCLUDE	ETID (4006) "Mammography CAD Single Image Finding"	1-n	UC	May be present only if value of parent is (111105, DCM, "Calcification Cluster")	EV (111104, DCM, "Individual Calcification")
21	>	HAS OBS CONTEXT	INCLUDE	ETID (4022) "CAD Observation Context"	1	MC	Shall be present only if this finding is incorporated from a different report than its parent	

Content Item Descriptions

Rendering Intent	This content item constrains the SCP receiving the Mammography CAD SR IOD in its use of the contents of this template and its target content items. Mammography CAD devices may opt to use data marked "Not for Presentation" or "Presentation Optional" as input to subsequent mammography CAD processing steps. Refer to PS 3.4, Annex O Structured Reporting Storage SOP Classes for SCU and SCP Behavior.
Single Image Finding	A Single Image Finding (whose parent is a Single Image Finding of type Calcification Cluster) allows one level of nesting for the definition of individual calcifications within the cluster. To use this template recursively, this Single Image Finding code value shall be "Individual Calcification".
Certainty of Finding	The likelihood that the finding detected, and classified by the CODE specified in the Single Image Finding parent template, is in fact that type of finding.

TID 4007   Mammography CAD Breast Composition Template

TID 4007
MAMMOGRAPHY CAD BREAST COMPOSITION

|	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111006, DCM, "Breast composition")	1	MC	At least one of row 1 or 2 shall be present	DCID (6000) "Overall Breast Composition"
2			NUM	(111046, DCM, "Percent Glandular Tissue")	1	MC	At least one of row 1 or 2 shall be present	UNITS = (%, UCUM, "Percent") Value = 0 – 100

Content Item Descriptions

Percent Glandular Tissue	Percent of breast area that is mammographically dense.

TID 4008   Mammography CAD Breast Geometry Template

TID 4008
MAMMOGRAPHY CAD BREAST GEOMETRY

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			SCOORD	(111007, DCM, "Breast Outline Including Pectoral Muscle Tissue")	1	M		Graphic Data Type = POLYLINE
2	>	R-SELECTED FROM	IMAGE		1	M		Shall reference an IMAGE content item in the (111028, DCM, "Image Library")
3			SCOORD	(111045, DCM, "Pectoral Muscle Outline")	1	U		Graphic Data Type = POLYLINE
4	>	R-SELECTED FROM	IMAGE		1	M		Shall reference the same node as row 2

Content Item Descriptions

| Breast Outline Including Pectoral Muscle Tissue | Example |
| Pectoral Muscle Outline | Example |
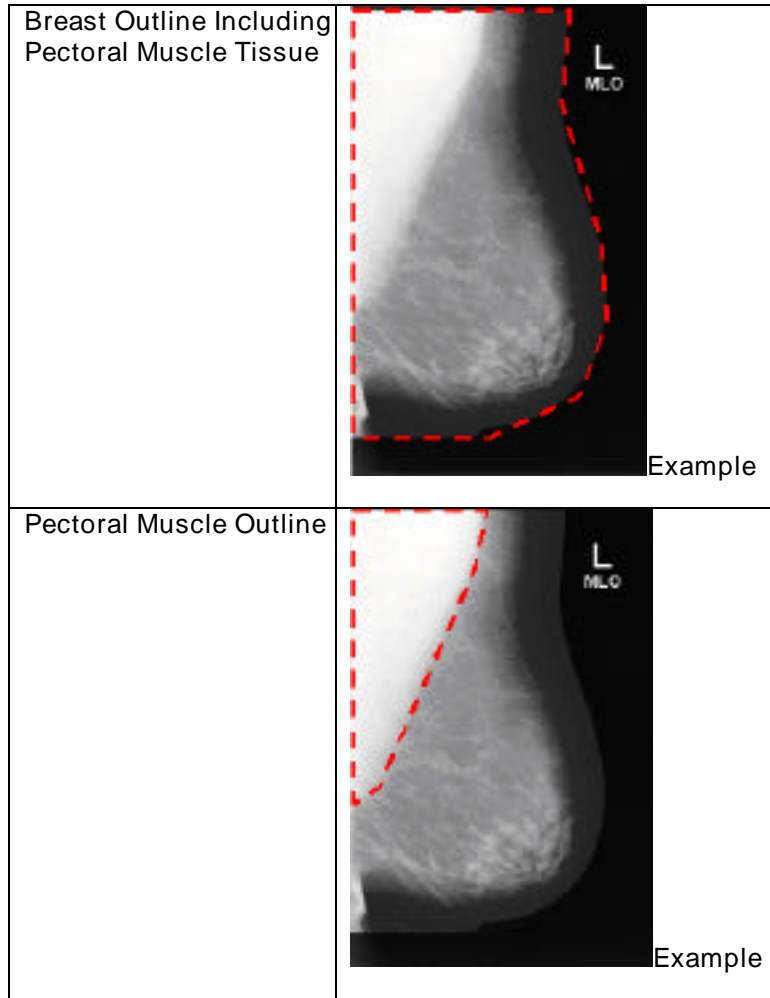
TID 4009   Mammography CAD Individual Calcification Template

This template provides the detail specific to an individual calcification.

TID 4009
MAMMOGRAPHY CAD INDIVIDUAL CALCIFICATION

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111009, DCM, "Calcification Type")	1-n	MC	At least one of rows 1, 2, 3 shall be present	DCID (6010) "Mammography Calcification Types"
2			INCLUDE	DTID (1400) "Linear Measurement"	1-n	MC	At least one of rows 1, 2, 3 shall be present	The by-reference relationship the IMAGE in TID (1400) "Linear Measurement" shall be used.
3			INCLUDE	DTID (1401) "Area Measurement"	1-n	MC	At least one of rows 1, 2, 3 shall be present	The by-reference relationship the IMAGE in TID (1401) "Area Measurement" shall be used.

TID 4010   Mammography CAD Calcification Cluster Template

This template provides the detail specific to a calcification cluster.

TID 4010
MAMMOGRAPHY CAD CALCIFICATION CLUSTER

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111009, DCM, "Calcification Type")	1-n	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	DCID (6010) "Mammography Calcification Types"
2			CODE	(111008, DCM, "Calcification Distribution")	1	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	DCID (6012) "Calcification Distribution Modifier"
3			NUM	(111038, DCM, "Number of calcifications")	1	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	UNITS = (1, UCUM, "Unity") Value = Integer >= 1
4			INCLUDE	DTID (1400) "Linear Measurement"	1-n	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	The by-reference relationship the IMAGE in TID (1400) "Linear Measurement" shall b used.
5			INCLUDE	DTID (1401) "Area Measurement"	1-n	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	The by-reference relationship the IMAGE in TID (1401) "Area Measurement" shall be used.

TID 4011   Mammography CAD Density Template

This template provides the detail specific to a density.

TID 4011
MAMMOGRAPHY CAD DENSITY

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111035, DCM, "Lesion Density")	1	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	DCID (6008) "Density Modifier"
2			CODE	(M-020F9, SNM3, "Shape")	1	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	DCID (6004) "Mammography Characteristics of Shape"
3			CODE	(111037, DCM, "Margins")	1-n	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	DCID (6006) "Mammography Characteristics of Margin"
4			INCLUDE	DTID (1400) "Linear Measurement"	1-n	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	The by-reference relationship the IMAGE in TID (1400) "Linear Measurement" shall b used.
5			INCLUDE	DTID (1401) "Area Measurement"	1-n	MC	At least one of rows 1, 2, 3, 4, 5 shall be present	The by-reference relationship the IMAGE in TID (1401) "Area Measurement" shall be used.

TID 4012   Mammography CAD Non-Lesion Template

This template provides the detail specific to a finding other than a lesion (see CID 6040).

TID 4012
MAMMOGRAPHY CAD NON-LESION

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111039, DCM, "Object type")	1	M		DCID (6040) "Non-Lesion Object Type"
2			INCLUDE	DTID (1400) "Linear Measurement"	1-n	U		The by-reference relationship the IMAGE in TID (1400) "Linear Measurement" shall b used.
3			INCLUDE	DTID (1401) "Area Measurement"	1-n	U		The by-reference relationship the IMAGE in TID (1401) "Area Measurement" shall be used.

TID 4013   Mammography CAD Selected Region Template

This template provides the detail specific to a selected region. A selected region is any mammography CAD derived arbitrary region of the image, whether within the breast outline or not. This can be use to delineate regions such as the intramammary fold.

TID 4013
MAMMOGRAPHY CAD SELECTED REGION

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			TEXT	(111058, DCM, "Selected Region Description")	1	M		
2			INCLUDE	DTID (1400) "Linear Measurement"	1-n	U		The by-reference relationship the IMAGE in TID (1400) "Linear Measurement" shall b used.
3			INCLUDE	DTID (1401) "Area Measurement"	1-n	U		The by-reference relationship the IMAGE in TID (1401) "Area Measurement" shall be used.

TID 4014   Mammography CAD Image Quality Template

This template provides the detail specific to image quality. It allows the encoding of descriptors of image quality (CID 6041) for a given image or region of an image. For instance, images with partial motion blur can be identified with the region noted.

TID 4014
MAMMOGRAPHY CAD IMAGE QUALITY

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111052, DCM, "Quality Finding")	1	M		DCID (6041) "Mammography Image Quality Finding"
2	>	HAS PROP	CODE	(111050, DCM, "Quality Assessment")	1	U		DCID (6044) "Types of Image Quality Assessment"
3	>	HAS PROP	CODE	(111051, DCM, "Quality Control Standard")	1	UC	Shall be present if row 2 is present.	DCID (6045) "Mammography Types of Quality Control Standard"
4	>	HAS PROP	NUM	(111029, DCM, "Image Quality Rating")	1	U		UNITS = ("{0-100}", UCUM, "Ordinal scale 0 to 100") Value = 0 – 100

Content Item Descriptions

Image Quality Rating	A numeric value in the range 0 to 100, inclusive, where 0 is worst quality and 100 is best quality.

TID 4015   Mammography CAD Detections Performed Template

This template gathers two lists of detection algorithms attempted, grouped by success/failure status. Algorithms not attempted are not mentioned in this sub-tree of the Document Root (TID 4000). This information forms the basis for understanding why a mammography CAD report may produce no (or fewer than anticipated) detection results.

The sub-tree formed by this template is illustrated in Figure x.x.x.2 of Part 3, Annex X (Mammography CAD SR Content Tree Structure).

TID 4015
MAMMOGRAPHY CAD DETECTIONS PERFORMED

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	(111063, DCM, "Successful Detections")	1	MC	Shall be present only if value of parent is (111222, DCM, "Succeeded") or (111223, DCM, "Partially Succeeded")	
2	>	CONTAINS	INCLUDE	ETID (4017) "Mammography CAD Detection Performed"	1-n	M		
3			CONTAINER	(111025, DCM, "Failed Detections")	1	MC	Shall be present only if value of parent is (111224, DCM, "Failed") or (111223, DCM, "Partially Succeeded")	
4	>	CONTAINS	INCLUDE	ETID (4017) "Mammography CAD Detection Performed"	1-n	M		

TID 4016   Mammography CAD Analyses Performed Template

This template gathers two lists of analysis algorithms attempted, grouped by success/failure status. Algorithms not attempted are not mentioned in this sub-tree of the Document Root (TID 4000). This information forms the basis for understanding why a mammography CAD report may produce no (or fewer than anticipated) analysis results.

The sub-tree formed by this template is illustrated in Figure x.x.x.2 of Part 3, Annex X (Mammography CAD SR Content Tree Structure).

TID 4016
MAMMOGRAPHY CAD ANALYSES PERFORMED

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	(111062, DCM, "Successful Analyses")	1	MC	Shall be present only if value of parent is (111222, DCM, "Succeeded") or (111223, DCM, "Partially Succeeded")	
2	>	CONTAINS	INCLUDE	ETID (4018) "Mammograpy CAD Analysis Performed"	1-n	M		
3			CONTAINER	(111024, DCM, "Failed Analyses")	1	MC	Shall be present only if value of parent is (111224, DCM, "Failed") or (111223, DCM, "Partially Succeeded")	
4	>	CONTAINS	INCLUDE	ETID (4018) "Mammography CAD Analysis Performed"	1-n	M		

TID 4017   Mammography CAD Detection Performed Template

This template fully identifies a detection algorithm and the images and/or image regions on which it operated.

TID 4017
MAMMOGRAPHY CAD DETECTION PERFORMED

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111022, DCM, "Detection Performed")	1	M		DCID (6014) "Mammography Single Image Finding"
2	>	HAS PROP	INCLUDE	ETID (4019) "CAD Algorithm Identification"	1	M		
3	>	R-HAS PROP	IMAGE		1-n	MC	At least one of row 3 or 4 shall be present	Shall reference IMAGE content item(s) in the (111028, DCM, "Image Library")
4	>	HAS PROP	SCOORD	(111030, DCM, "Image Region")	1-n	MC	At least one of row 3 or 4 shall be present	
5	>>	R-SELECTED FROM	IMAGE		1	M		Shall reference an IMAGE content item in the (111028, DCM, "Image Library")

Content Item Descriptions

CAD Algorithm Identification	If more than one detection algorithm has the same "Detection Performed" code value (CID 6014) then the "CAD Algorithm Identification" shall unambiguously distinguish between algorithms.

TID 4018   Mammography CAD Analysis Performed Template

This template fully identifies an analysis algorithm and the images and/or image regions on which it operated.

TID 4018
MAMMOGRAPHY CAD ANALYSIS PERFORMED

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CODE	(111004, DCM, "Analysis Performed")	1	M		DCID (6043) "Types of Mammography CAD Analysis"
2	>	HAS PROP	INCLUDE	ETID (4019) "CAD Algorithm Identification"	1	M		
3	>	R-HAS PROP	IMAGE		1-n	MC	A total of at least two instances of row 3 or 4 shall be present	Shall reference IMAGE content item(s) in the (111028, DCM, "Image Library")
4	>	HAS PROP	SCOORD	(111030, DCM, "Image Region")	1-n	MC	At total of at least two instances of row 3 or 4 shall be present	
5	>>	R-SELECTED FROM	IMAGE		1	M		Shall reference an IMAGE content item in the (111028, DCM, "Image Library")

Content Item Descriptions

CAD Algorithm Identification	If more than one analysis algorithm has the same "Analysis Performed" code value (CID 6043) then the "CAD Algorithm Identification" shall unambiguously distinguish between algorithms.

TID 4019   CAD Algorithm Identification Template

This template details the algorithm unambiguously. Re-state the software identification from the General Equipment Module of the SR IOD if all algorithms are unambiguously defined by that module.

TID 4019
CAD ALGORITHM IDENTIFICATION

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			TEXT	(111001, DCM, "Algorithm Name")	1	M		
2			TEXT	(111003, DCM, "Algorithm Version")	1	M		
3			TEXT	(111002, DCM, "Algorithm Parameters")	1-n	U		

TID 4020   Mammography CAD Image Library Entry Template

Each instance of the Image Library Entry template contains the Image SOP Class and Instance UIDs, and selected attributes for an image. If the Image SOP Class is other than Digital Mammography Image Storage then as many of the attributes as possible should be derived.

TID 4020
MAMMOGRAPHY CAD IMAGE LIBRARY ENTRY

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			IMAGE		1	M		
2	>	HAS ACQ CONTEXT	CODE	(111027, DCM, "Image Laterality")	1	MC	Shall be present if (0020,0062) is in the Image IOD	ECID (6022) "Side"
3	>	HAS ACQ CONTEXT	CODE	(111031, DCM, "Image View")	1	MC	Shall be present if (0054,0220) is in the Image IOD	DCID (4014) "View for Mammography"
4	>>	HAS CONCEPT MOD	CODE	(111032, DCM, "Image View Modifier")	1	MC	Shall be present if (0054,0222) is in the Image IOD	DCID (4015) "View Modifier for Mammography"
5	>	HAS ACQ CONTEXT	TEXT	(111044, DCM, "Patient Orientation Row")	1	MC	Shall be present if (0020,0020) is in the Image IOD	
6	>	HAS ACQ CONTEXT	TEXT	(111043, DCM, "Patient Orientation Column")	1	MC	Shall be present if (0020,0020) is in the Image IOD	
7	>	HAS ACQ CONTEXT	DATE	(111060, DCM, "Study Date")	1	MC	Shall be present if (0008,0020) is in the Image IOD	
8	>	HAS ACQ CONTEXT	TIME	(111061, DCM, "Study Time")	1	MC	Shall be present if (0008,0030) is in the Image IOD	
9	>	HAS ACQ CONTEXT	DATE	(111018, DCM, "Content Date")	1	MC	Shall be present if (0008,0023) is in the Image IOD	
10	>	HAS ACQ CONTEXT	TIME	(111019, DCM, "Content Time")	1	MC	Shall be present if (0008,0033) is in the Image IOD	
11	>	HAS ACQ CONTEXT	NUM	(111026, DCM, "Horizontal Imager Pixel Spacing")	1	MC	Shall be present if (0018,1164) is in the Image IOD	UNITS = EV (um, UCUM, "micrometer")
12	>	HAS ACQ CONTEXT	NUM	(111066, DCM, "Vertical Imager Pixel Spacing")	1	MC	Shall be present if (0018,1164) is in the Image IOD	UNITS = EV (um, UCUM, "micrometer")

Content Item Descriptions

Patient Orientation Row	First (row) and Second (column) components of Patient Orientation (0020,0020) in the Image IOD. See PS 3, C.7.6.1.1.1.
Patient Orientation Column	
Horizontal Imager Pixel Spacing	The row (first) component of Imager Pixel Spacing (0018,1164) in the Image IOD. See PS 3, C.8.11.4. Convert the source spacing to micrometers.
Vertical Imager Pixel Spacing	The column (second) component of Imager Pixel Spacing (0018,1164) in the Image IOD. See PS 3, C.8.11.4. Convert the source spacing to micrometers.

TID 4021   Mammography CAD Geometry Template

All geometry template invocations require specification of the location of the center of the object. Outline is optional.

TID 4021
MAMMOGRAPHY CAD GEOMETRY

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			SCOORD	(111010, DCM, "Center")	1	M		Graphic Data Type = POINT
2	>	R-SELECTED FROM	IMAGE		1	M		Shall reference an IMAGE content item in the (111028, DCM, "Image Library")
3			SCOORD	(111041, DCM, "Outline")	1	U		
4	>	R-SELECTED FROM	IMAGE		1	M		Shall reference the same content item as row 2

TID 4022   CAD Observation Context Template

This template is invoked when a content item, which may be the "root" of a sub-tree, is paraphrased from a prior SR document.

TID 4022
CAD OBSERVATION CONTEXT

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			COMPOSITE	(111040, DCM, "Original Source")	1	MC	Shall be present if the original source is a DICOM object.	
2	>	HAS CONCEPT MOD	INCLUDE	ETID (1204) "Language of Content Item and Descendants"	1	M		
3			INCLUDE	ETID (1001) "Observation Context"	1	M		

Add the following Context Groups to Part 16 Annex B DCMR Context Groups (Normative):

Annex B   DCMR Context Groups (Normative)

Context ID 6000

Overall Breast Composition

(Most Restrictive Use: Defined)

Note: In future extensions, Overall Breast Composition terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6001

Context ID 6001

Overall Breast Composition from BI-RADS™

(Most Restrictive Use: Defined)

Note: From BI-RADS™ Third Edition (National Mammography Database, E77)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01711	Almost entirely fat
SRT	1.1	F-01712	Scattered fibroglandular densities
SRT	1.1	F-01713	Heterogeneously dense
SRT	1.1	F-01714	Extremely dense

Context ID 6002

Change Since Last Mammogram or Prior Surgery

(Most Restrictive Use: Defined)

Note: In future extensions, Change Since Last Mammogram or Prior Surgery terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6003

Context ID 6003

Change Since Last Mammogram or Prior Surgery from BI-RADS^{TM}

(Most Restrictive Use: Defined)

Note: From BI-RADS^{TM} Third Edition (National Mammography Database, E79)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01721	New finding
SRT	1.1	F-01722	Finding partially removed
SRT	1.1	F-01723	No significant changes in the finding
SRT	1.1	M-02520	Increase in size
SRT	1.1	M-02530	Decrease in size
SRT	1.1	F-01726	Increase in number of calcifications
SRT	1.1	F-01727	Decrease in number of calcifications
SRT	1.1	F-01728	Less defined
SRT	1.1	F-01729	More defined
SRT	1.1	F-0172A	Removal of implant since previous mammogram
SRT	1.1	F-0172B	Implant revised since previous mammogram

Context ID 6004

Mammography Characteristics of Shape

(Most Restrictive Use: Defined)

Note: In future extensions, Mammography Characteristics of Shape terms that are not derived from BI-RADS^{TM} should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6005

Context ID 6005

Characteristics of Shape from BI-RADS^{TM}

(Most Restrictive Use: Defined)

Note: From BI-RADS^{TM} Third Edition (National Mammography Database, E80)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3	3.4	M-02100	Round shape
SNM3	3.4	M-02120	Ovoid shape (Oval)
SNM3	3.4	G-A640	Lobular
SNM3	3.4	G-A402	Irregular

Context ID 6006

Mammography Characteristics of Margin

(Most Restrictive Use: Defined)

Note: In future extensions, Mammography Characteristics of Margin terms that are not derived from BI-RADS^{TM} should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6007

Context ID 6007

Characteristics of Margin from BI-RADS^{TM}

(Most Restrictive Use: Defined)

Note: From BI-RADS^{TM} Third Edition (National Mammography Database, E81)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01741	Circumscribed lesion
SRT	1.1	F-01742	Microlobulated lesion
SRT	1.1	F-01743	Obscured lesion
SRT	1.1	F-01744	Indistinct lesion
SRT	1.1	F-01745	Spiculated lesion

Context ID 6008

Density Modifier

(Most Restrictive Use: Defined)

Note: In future extensions, Density Modifier terms that are not derived from BI-RADS^{TM} should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6009

Context ID 6009

Density Modifier from BI-RADS^{TM}

(Most Restrictive Use: Defined)

Note: From BI-RADS^{TM} Third Edition (National Mammography Database, E82)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01751	High density lesion
SRT	1.1	F-01752	Equal density (isodense) lesion
SRT	1.1	F-01753	Low density (not containing fat) lesion
SRT	1.1	F-01754	Fat containing (radiolucent) lesion

Context ID 6010

Mammography Calcification Types

(Most Restrictive Use: Defined)

Note: In future extensions, Mammography Calcification Types terms that are not derived from BI-RADS^{TM} should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6011

Context ID 6011

Calcification Types from BI-RADS[TM]

(Most Restrictive Use: Defined)

Note: From BI-RADS[TM] Third Edition (National Mammography Database, E83)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01761	Coarse (popcorn-like) calcification
SRT	1.1	F-01762	Dystrophic calcification
SRT	1.1	F-01763	Eggshell calcification
SRT	1.1	F-01764	Large rod-like calcification
SRT	1.1	F-01765	Milk of calcium calcification
SRT	1.1	F-01766	Lucent-centered calcification
SRT	1.1	F-01767	Punctate calcification
SRT	1.1	F-01768	Round shaped calcification
SRT	1.1	F-01769	Calcified skin of breast
SRT	1.1	F-0176A	Calcified suture material
SRT	1.1	F-0176B	Vascular calcification
SRT	1.1	F-0176C	Amorphous calcification
SRT	1.1	F-0176D	Fine, linear (casting) calcification
SRT	1.1	F-0176E	Fine linear, branching (casting) calcification
SRT	1.1	F-0176F	Heterogeneous calcification

Context ID 6012

Calcification Distribution Modifier

(Most Restrictive Use: Defined)

Note: In future extensions, Calcification Distribution Modifier terms that are not derived from BI-RADS[TM] should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6013

Context ID 6013

Calcification Distribution Modifier from BI-RADS™

(Most Restrictive Use: Defined)

Note: From BI-RADS™ Third Edition (National Mammography Database, E84)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01770	Diffuse calcification distribution
SRT	1.1	F-01771	Linear calcification distribution
SRT	1.1	F-01772	Grouped calcification distribution
SRT	1.1	F-01773	Regional calcification distribution
SRT	1.1	F-01774	Segmental calcification distribution

Context ID 6014

Mammography Single Image Finding

(Most Restrictive Use: Defined)

Note: In future extensions, Mammography Single Image Finding terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6015
DCM		111099	Selected region
DCM		111100	Breast geometry
DCM		111101	Image Quality
DCM		111102	Non-lesion
SNM3		T-04100	Nipple

Context ID 6015

Single Image Finding from BI-RADS™

(Most Restrictive Use: Defined)

Note: Collected from BI-RADS™ Third Edition

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111103	Density
DCM		111104	Individual Calcification
DCM		111105	Calcification Cluster
BI	3.0	I.C	Architectural distortion
BI	3.0	I.D.1	Tubular density

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
BI	3.0	I.D.2	Intra-mammary lymph node
BI	3.0	I.E.4	Trabecular thickening
DCM		111006	Breast composition
BI	3.0	I.E.1	Skin retraction
BI	3.0	I.E.3	Skin thickening
BI	3.0	I.E.6	Axillary adenopathy
BI	3.0	I.E.5	Skin lesion

Context ID 6016

Mammography Composite Feature

(Most Restrictive Use: Defined)

Note: In future extensions, Mammography Composite Feature terms that are not derived from BI-RADS[TM] should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6014
			Include CONTEXT GROUP 6017

Context ID 6017

Composite Feature from BI-RADS[TM]

(Most Restrictive Use: Defined)

Note: Collected from BI-RADS[TM] Third Edition

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01791	Mammographic breast mass
SRT	1.1	F-01792	Focal asymmetric breast tissue
SRT	1.1	F-01793	Asymmetric breast tissue

Context ID 6018

Clockface Location

(Most Restrictive Use: Defined)

Note: In future extensions, Clockface Location terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6019

Context ID 6019

Clockface Location from BI-RADS™

(Most Restrictive Use: Defined)

Note: From BI-RADS™ 3.1, with Addendum 3.1 (National Mammography Database, E96)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-01781	1 o'clock position
SRT	1.1	F-01782	2 o'clock position
SRT	1.1	F-01783	3 o'clock position
SRT	1.1	F-01784	4 o'clock position
SRT	1.1	F-01785	5 o'clock position
SRT	1.1	F-01786	6 o'clock position
SRT	1.1	F-01787	7 o'clock position
SRT	1.1	F-01788	8 o'clock position
SRT	1.1	F-01789	9 o'clock position
SRT	1.1	F-0178A	10 o'clock position
SRT	1.1	F-0178B	11 o'clock position
SRT	1.1	F-0178C	12 o'clock position
SRT	1.1	F-0178D	Subareolar position
SRT	1.1	F-0178E	Axillary tail position
SRT	1.1	F-0178F	Central portion of breast position
SRT	1.1	F-01794	Axilla position

Context ID 6020

Quadrant Location

(Most Restrictive Use: Defined)

Note: In future extensions, Quadrant Location terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6021

Context ID 6021

Quadrant Location from BI-RADS™

(Most Restrictive Use: Defined)

Note: From BI-RADS™ Third Edition (National Mammography Database, E97)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.0	T-04004	Upper outer quadrant of breast
SRT	1.0	T-04002	Upper inner quadrant of breast
SRT	1.0	T-04005	Lower outer quadrant of breast
SRT	1.0	T-04003	Lower inner quadrant of breast

Context ID 6022

Side

(Most Restrictive Use: Enumerated)

Note: In future extensions, Side terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6023

Context ID 6023

Side from BI-RADS^{TM}

(Most Restrictive Use: Enumerated)

Note: From BI-RADS^{TM} Third Edition (National Mammography Database, E98)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3		T-04030	Left breast
SNM3		T-04020	Right breast
SNM3		T-04080	Both breasts

Context ID 6024

Depth

(Most Restrictive Use: Defined)

Note: In future extensions, Depth terms that are not derived from BI-RADS^{TM} should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6025

Context ID 6025

Depth from BI-RADS^{TM}

(Most Restrictive Use: Defined)

Note: From BI-RADS^{TM} Third Edition (National Mammography Database, E99)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3		G-A105	Anterior
SNM3		G-A109	Middle
SNM3		G-A106	Posterior

Context ID 6026

Mammography Assessment

(Most Restrictive Use: Defined)

Note: In future extensions, Mammography Assessment terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6027

Context ID 6027

Assessment from BI-RADS™

(Most Restrictive Use: Defined)

Note: From BI-RADS™ Third Edition (National Mammography Database, E100)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
BI	3.0	II.AC.a	0 - Need additional imaging evaluation
BI	3.0	II.AC.b.1	1 – Negative
BI	3.0	II.AC.b.2	2 – Benign
BI	3.0	II.AC.b.3	3 - Probably benign – short interval follow-up (1-11 months)
BI	3.0	II.AC.b.4	4 - Suspicious abnormality, biopsy should be considered
BI	3.0	II.AC.b.5	5 - Highly suggestive of malignancy, take appropriate action

Context ID 6028

Mammography Recommended Follow-up

(Most Restrictive Use: Defined)

Note: In future extensions, Mammography Recommended Follow-up terms that are not derived from BI-RADS™ should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6029

Context ID 6029

Recommended Follow-up from BI-RADS[TM]

(Most Restrictive Use: Defined)

Note: From BI-RADS[TM] Third Edition (National Mammography Database, E101) for Assessment Category 0

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111135	Additional projections
SNM3		R-102D6	Magnification views
SNM3		R-102D7	Spot compression
DCM		111136	Spot magnification view(s)
DCM		111137	Ultrasound
DCM		111138	Old films for comparison
DCM		111139	Ductography
DCM		111140	Normal interval follow-up
DCM		111141	Any decision to biopsy should be based on clinical assessment
DCM		111142	Follow-up at short interval (1-11 months)
DCM		111143	Biopsy should be considered
DCM		111144	Needle localization and biopsy
DCM		111145	Histology using core biopsy
DCM		111146	Suggestive of malignancy – take appropriate action
DCM		111147	Cytologic analysis
DCM		111148	Biopsy should be strongly considered
DCM		111149	Highly suggestive of malignancy – take appropriate action

Context ID 6030

Mammography Pathology Codes

(Most Restrictive Use: Baseline)

Note: In future extensions, Mammography Pathology Codes terms that are not derived from BI-RADS[TM] should be added to this context group.

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
			Include CONTEXT GROUP 6031
			Include CONTEXT GROUP 6032
			Include CONTEXT GROUP 6033

Context ID 6031

Benign Pathology Codes from BI-RADS^{TM}

(Most Restrictive Use: Baseline)

Note: From BI-RADS^{TM} Third Edition, with Addendum 3.1 (National Mammography Database, F110)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3		M-41610	Abscess
SNM3		M-74200	Adenosis
SNM3		M-81400	Adenoma
DCM		111248	Adenolipoma
SNM3		M-73310	Apocrine Metaplasia
DCM		111250	Adenomyoepithelioma
SNM3		M-55160	Amyloid (tumor)
DCM		111251	Normal axillary node
SNM3		M-88610	Angiolipoma
DCM		111252	Axillary node with calcifications
SNM3		M-76100	Angiomatosis
DCM		111253	Axillary node hyperplasia
DCM		111254	Asynchronous involution
SNM3		D7-90360	Cyst of breast
DCM		111255	Benign cyst with blood
DCM		111256	Benign Calcifications
SNM3		M-92200	Chondroma
DCM		111257	Intracystic papilloma
DCM		111258	Ductal adenoma
SNM3		D7-90370	Mammary duct ectasia
DCM		111259	Diabetic fibrous mastopathy
DCM		111249	Ductal hyperplasia, Usual
DCM		111260	Extra abdomenal desmoid
SNM3		D4-48014	Ectopic (accessory) breast tissue
DCM		111262	Epidermal inclusion cyst
SNM3		M-36300	Edema
SNM3		M-90100	Fibroadenoma
DCM		111263	Fibroadenomatoid hyperplasia
DCM		111264	Fibroadenolipoma
DCM		111265	Foreign body (reaction)
SNM3		D7-90310	Fibrocystic disease of breast
SNM3		M-78266	Focal fibrosis

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3		M-78800	Fibromatosis
SNM3		D7-90434	Fat necrosis of breast
DCM		111269	Galactocele
SNM3		M-95800	Granular cell tumor
SNM3		M-90160	Giant fibroadenoma
SNM3		D7-90420	Gynecomastia
SNM3		M-75500	Hamartoma
SNM3		M-91200	Hemangioma
DCM		111271	Hemangioma – nonparenchymal, subcutaneous
SNM3		M-91220	Hemangioma – venous
SNM3		M-35060	Hematoma
DCM		111273	Hyperplasia, usual
SNM3		D7-90452	Infarction of breast
SNM3		M-40000	Inflammation
BI	3.0	I.D.2	Intra-mammary lymph node
SNM3		M-85030	Intraductal papilloma
SNM3		M-90300	Juvenile fibroadenoma
DCM		111277	Juvenile papillomatosis
DCM		111278	Lactating adenoma
SNM3		M-88500	Lipoma of the breast
DCM		111279	Lactational change
SNM3		D7-90428	Breast lobular hyperplasia
SNM3		M-88900	Leiomyoma
SNM3		T-C4000	Lymph node
DCM		111281	Large duct papilloma
SNM3		D3-87780	Thrombophlebitis of breast (Mondor's disease)
DCM		111283	Myofibroblastoma
DCM		111284	Microglandular adenosis
DCM		111285	Multiple Intraductal Papillomas
DCM		111286	No abnormality
DCM		111287	Normal breast tissue
SNM3		M-95400	Neurofibroma
DCM		111288	Neurofibromatosis
SNM3		D7-F0810	Benign neoplasm of nipple of female breast (Nipple adenoma)
DCM		111290	Oil cyst (fat necrosis cyst)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3		M-80500	Papilloma
SNM3		M-89400	Pleomorphic adenoma
DCM		111291	Post reduction mammoplasty
DCM		111292	Pseudoangiomatous stromal hyperplasia
DCM		111293	Radial scar
DCM		111294	Sclerosing adenosis
SNM3		M-36050	Seroma
DCM		111296	Silicone granuloma
DCM		111168	Scar tissue
SNM3		M-82110	Tubular adenoma
DCM		111298	Virginal hyperplasia

Context ID 6032

High Risk Lesions Pathology Codes from BI-RADS[TM]

(Most Restrictive Use: Baseline)

Note: From BI-RADS[TM] Third Edition, with Addendum 3.1 (National Mammography Database, F110)

SNM3		M-72175	Atypical intraductal hyperplasia
SNM3		M-72105	Atypical lobular hyperplasia
SNM3		D7-F0A02	Lobular carcinoma in situ of breast
DCM		111299	Peripheral duct papillomas
SNM3		M-90201	Phyllodes tumor

Context ID 6033

Malignant Pathology Codes from BI-RADS[TM]

(Most Restrictive Use: Baseline)

Note: From BI-RADS[TM] Third Edition, with Addendum 3.1 (National Mammography Database, F110)

SNM3		M-82003	Adenoid cystic carcinoma
DCM		111300	Axillary node with lymphoma
DCM		111301	Axillary nodal metastases
SNM3		M-84013	Apocrine adenocarcinoma
DCM		111302	Angiosarcoma
DCM		111307	Basal cell carcinoma of nipple
DCM		111303	Blood vessel (vascular) invasion
SNM3		M-84803	Mucinous adenocarcinoma (Colloid carcinoma)
DCM		111304	Carcinoma in children
SNM3		M-92203	Chondrosarcoma
DCM		111305	Carcinoma in ectopic breast
DCM		111306	Carcinoma with endocrine differentiation

SNM3		M-85013	Comedocarcinoma (intraductal)
SNM3		D7-F0902	Carcinoma in situ of male breast
DCM		111308	Carcinoma with metaplasia
DCM		111309	Cartilaginous and osseous change
DCM		111310	Carcinoma in pregnancy and lactation
DCM		111311	Carcinosarcoma
DCM		111312	Intraductal comedocarcinoma with necrosis
DCM		111341	Intraductal carcinoma, high grade
DCM		111313	Intraductal carcinoma, low grade
DCM		111314	Intraductal carcinoma micro-papillary
SNM3		M-88103	Fibrosarcoma
SNM3		M-83153	Glycogen-rich carcinoma
SNM3		M-91501	Hemangiopericytoma
SNM3		DC-F1000	Hodgkin's disease (lymphoma)
DCM		111342	Invasive cribriform carcinoma
DCM		111315	Intracystic papillary carcinoma
SNM3		M-85003	Infiltrating duct carcinoma
DCM		111316	Invasive and in-situ carcinoma
DCM		111317	Invasive lobular carcinoma
SNM3		M-85303	Inflammatory carcinoma
SNM3		M-80503	Papillary carcinoma (invasive)
DCM		111318	Leukemic infiltration
SNM3		M-88903	Leiomyosarcoma
SNM3		M-88503	Liposarcoma
SNM3		M-83143	Lipid-rich (lipid-secreting) carcinoma
DCM		111320	Lymphatic vessel invasion
DCM		111321	Lymphoma
DCM		111322	Occult carcinoma presenting with axillary lymph node metastases
DCM		111323	Metastatic cancer to the breast
DCM		111324	Metastatic cancer to the breast from the colon
DCM		111325	Metastatic cancer to the breast from the lung
DCM		111326	Metastatic melanoma to the breast
DCM		111327	Metastatic cancer to the breast from the ovary
DCM		111328	Metastatic sarcoma to the breast
SNM3		M-85103	Medullary carcinoma
DCM		111329	Multifocal intraductal carcinoma
DCM		111330	Metastatic disease to axillary node
DCM		111331	Malignant fibrous histiocytoma
DCM		111332	Multifocal invasive ductal carcinoma

DCM		111333	Metastasis to an intramammary lymph node
DCM		111334	Malignant melanoma of nipple
SNM3		DC-F0002	Non-Hodgkin's lymphoma
DCM		111335	Neoplasm of the mammary skin
SNM3		M-91803	Osteogenic sarcoma
DCM		111336	Papillary carcinoma in-situ
SNM3		M-85403	Paget's disease, mammary (of the nipple)
SNM3		M-97313	Plasmacytoma
SNM3		M-90203	Phyllodes tumor, malignant
DCM		111338	Recurrent malignancy
SNM3		M-84903	Signet ring cell carcinoma
DCM		111340	Squamous cell carcinoma of the nipple
SNM3		M-78190	Spindle cell nodule (tumor)
SNM3		M-85023	Secretory (juvenile) carcinoma of the breast
SNM3		M-80703	Squamous cell carcinoma
SNM3		M-82113	Tubular adenocarcinoma

Context ID 6034

Intended Use of CAD Output

(Most Restrictive Use: Enumerated)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111150	Presentation Required: Rendering device is expected to present
DCM		111151	Presentation Optional: Rendering device may present
DCM		111152	Not for Presentation: Rendering device expected not to present

Context ID 6035

Composite Feature Relations

(Most Restrictive Use: Enumerated)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111153	Target content items are related temporally
DCM		111154	Target content items are related spatially
DCM		111155	Target content items are related contra-laterally

Context ID 6036

Scope of Feature

(Most Restrictive Use: Enumerated)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111156	Feature detected on the only image
DCM		111157	Feature detected on only one of the images
DCM		111158	Feature detected on multiple images
DCM		111159	Feature detected on images from multiple modalities

Context ID 6037

Mammography Quantitative Temporal Difference Type

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-017B1	Difference in size
SRT	1.1	F-017B2	Difference in opacity
SRT	1.1	F-017B3	Difference in location
SRT	1.1	F-017B4	Difference in spatial proximity
SRT	1.1	F-017B5	Difference in number of calcifications

Context ID 6038

Mammography Qualitative Temporal Difference Type

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	F-017B6	Difference in shape
SRT	1.1	F-017B7	Difference in margin
SRT	1.1	F-017B8	Difference in symmetry

Context ID 6039

Nipple Characteristic

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3		M-02000	Normal shape
SNM3		D7-90554	Nipple retraction

Context ID 6040

Non-Lesion Object Type

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SNM3		A-04010	Implant
DCM		111168	Scar tissue
SNM3		A-32475	BB shot (Lead Pellet)
SNM3		J-83250	Metal (Lead) Marker
SNM3		A-32110	Bullet
DCM		111170	J Wire
SNM3		A-13600	Staple
SNM3		A-13510	Suture material
SNM3		A-12062	Clip
DCM		111171	Pacemaker
SNM3		A-26800	Catheter

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111172	Paddle
DCM		111173	Collimator
DCM		111174	ID Plate
SNM3		C-B0300	Contrast agent NOS
DCM		111175	Other Marker
DCM		111176	Unspecified

Context ID 6041

Mammography Image Quality Finding

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111177	View and Laterality Marker is missing[1]
DCM		111178	View and Laterality Marker does not have both view and laterality[2]
DCM		111179	View and Laterality Marker does not have approved codes[2]
DCM		111180	View and Laterality Marker is not near the axilla[2]
DCM		111181	View and Laterality Marker overlaps breast tissue[2]
DCM		111182	View and Laterality Marker is partially obscured[2]
DCM		111183	View and Laterality Marker is incorrect
DCM		111184	View and Laterality Marker is off image
DCM		111185	Flash is not near edge of film[2]
DCM		111186	Flash is illegible, does not fit, or is lopsided[1]
DCM		111187	Flash doesn't include patient name and additional patient id[2]
DCM		111188	Flash doesn't include date of examination[2]
DCM		111189	Flash doesn't include facility name and location[1]
DCM		111190	Flash doesn't include technologist identification[2]
DCM		111191	Flash doesn't include cassette/screen/detector identification[2]
DCM		111192	Flash doesn't include mammography unit identification[2]
DCM		111193	Date sticker is missing[2]
DCM		111194	Technical factors missing[2]
DCM		111195	Collimation too close to breast[2]

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111196	Inadequate compression[1]
DCM		111197	MLO Insufficient pectoral muscle[2]
DCM		111198	MLO No fat is visualized posterior to fibroglandular tissues[2]
DCM		111199	MLO Poor separation of deep and superficial breast tissues[2]
DCM		111200	MLO Evidence of motion blur[2]
DCM		111201	MLO Inframammary fold is not open[2]
DCM		111202	CC Not all medial tissue visualized[2]
DCM		111203	CC Nipple not centered on image[2]
DCM		111204	CC Posterior nipple line does not measure within 1 cm of MLO[2]
DCM		111205	Nipple not in profile
DCM		111206	Insufficient implant displacement incorrect[2]
DCM		111208	Grid artifact(s)
DCM		111209	Positioning
DCM		111210	Motion blur
DCM		111211	Under exposed
DCM		111212	Over exposed
DCM		111213	No image
DCM		111214	Detector artifact(s)
DCM		111215	Artifact(s) other than grid or detector artifact
DCM		111216	Mechanical failure
DCM		111217	Electrical failure
DCM		111218	Software failure
DCM		111219	Inappropriate image processing
DCM		111220	Other failure
DCM		111221	Unknown failure

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[1] From MQSA

[2] From MQCM 1999

Context ID 6042

Status of Results

(Most Restrictive Use: Enumerated)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111222	Succeeded
DCM		111223	Partially Succeeded
DCM		111224	Failed
DCM		111225	Not Attempted

Context ID 6043

Types of Mammography CAD Analysis

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	1.1	P5-B3402	Spatial collocation analysis[1]
SRT	1.1	P5-B3404	Spatial proximity analysis[2]
SRT	1.1	P5-B3406	Temporal correlation
SRT	1.1	P5-B3408	Image quality analysis
SRT	1.1	P5-B3410	Focal asymmetric density analysis
SRT	1.1	P5-B3412	Asymmetric breast tissue analysis
SRT	1.1	P5-B3414	Breast composition analysis
DCM		111233	Individual Impression / Recommendation Analysis
DCM		111234	Overall Impression / Recommendation Analysis

[1] Spatial Collocation Analysis is used to identify features that are the same or located in the same place.

[2] Spatial Proximity Analysis is used to identify features that are related spatially, such as nipple retraction associated with a spiculated mass.

Context ID 6044

Types of Image Quality Assessment

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111235	Unusable— Quality renders image unusable
DCM		111236	Usable— Does not meet the quality control standard
DCM		111237	Usable— Meets the quality control standard

Context ID 6045

Mammography Types of Quality Control Standard

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111238	Mammography Quality Control Manual 1999, ACR
DCM		111239	Title 21 CFR Section 900, Subpart B
DCM		111240	Institutionally defined quality control standard

Context ID 6046

Units of Follow-up Interval

(Most Restrictive Use: Defined)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
UCUM	1.4	d	Day
UCUM	1.4	wk	Week
UCUM	1.4	mo	Month
UCUM	1.4	a	Year

Context ID 6047

CAD Processing and Findings Summary

(Most Restrictive Use: Enumerated)

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM		111241	All algorithms succeeded; without findings
DCM		111242	All algorithms succeeded; with findings
DCM		111243	Not all algorithms succeeded; without findings
DCM		111244	Not all algorithms succeeded; with findings
DCM		111245	No algorithms succeeded; without findings

Add the following definitions to Part 16 Annex D DICOM Controlled Terminology Definitions (Normative):

Annex D   DICOM Controlled Terminology Definitions (Normative)

This Annex specifies the meanings of codes defined in DICOM, either explicitly or by reference to another part of DICOM or an external reference document or standard.

DICOM Code Definitions (Coding Scheme Designator "DCM" Coding Scheme Version "01")

Code Value	Code Meaning	Definition
111001	Algorithm Name	The name assigned by a manufacturer to a specific software algorithm
111002	Algorithm Parameters	The input parameters used by a manufacturer to configure the behavior of a specific software algorithm
111003	Algorithm Version	The software version identifier assigned by a manufacturer to a specific software algorithm
111004	Analysis Performed	The type of correlation applied to detection results (e.g., temporal, spatial)
111005	Assessment Category	Assignment of intermediate or overall interpretation results to a general category
111006	Breast composition	Assessment of annotating tissues in breast; generally including fatty, mixed or dense
111007	Breast Outline including Pectoral Muscle Tissue[1]	Purpose of reference for an SCOORD content item that is an outline of the breast that includes the pectoral muscle tissue
111008	Calcification Distribution	The type of distribution associated with detected calcifications
111009	Calcification Type	Identification of the morphology of detected calcifications
111010	Center[1]	Purpose of reference for an SCOORD content item that identifies the central point of a finding or feature
111011	Certainty of Feature	The likelihood that the feature analyzed is in fact the type of feature identified.
111012	Certainty of Finding	The likelihood that the finding detected is in fact the type of finding identified.
111013	Certainty of Impression	The certainty that a device places on an impression, where 0 equals no certainty and 100 equals certainty.
111014	Clockface or region	A location identifier based on clockface numbering or anatomic subregion

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[1] Purpose of Reference for content item of value type COMPOSITE or SCOORD.

Code Value	Code Meaning	Definition
111015	Composite Feature	An item that is an inferred correlation relating two or more individual findings or features
111016	Composite type	The inferred relationship between the findings or features making up a composite feature
111017	CAD Processing and Findings Summary	General assessment of whether or not CAD processing was successful, and whether any findings resulted
111018	Content Date	The date the data creation started
111019	Content Time	The time the data creation started
111020	Depth	A location identifier based on a feature's inferred distance from the surface of the associated anatomy
111021	Description of Change	A textual description of the change that occurred over time in a qualitative characteristic of a feature
111022	Detection Performed	The type of finding sought after by a specific algorithm applied to one image
111023	Differential Diagnosis/Impression	A general change that occurred within an imaged area between a prior imaging procedure and the current imaging procedure
111024	Failed Analyses	A group of analysis algorithms that were attempted, but failed
111025	Failed Detections	A group of detection algorithms that were attempted, but failed
111026	Horizontal Imager Pixel Spacing	Horizontal physical distance measured at the front plane of an Image Receptor housing between the center of each pixel
111027	Image Laterality	Laterality of (possibly paired) body part contained in an image
111028	Image Library	A container that references all image data used as evidence to produce a report
111029	Image Quality Rating	A numeric value in the range 0 to 100, inclusive, where 0 is worst quality and 100 is best quality.
111030	Image Region[1]	Purpose of reference for an SCOORD content item that identifies a specific region of interest within an image
111031	Image View	The projection of the anatomic region of interest on an image receptor.
111032	Image View Modifier	Modifier for Image View
111033	Impression Description	Free-form text describing the overall or an individual impression
111034	Individual Impression/Recommendation	A container for a group of related results from interpretation of one or more images and associated clinical information

Code Value	Code Meaning	Definition
111035	Lesion Density	The x-ray attenuation of a lesion relative to the expected attenuation of an equal volume of fibroglandular breast tissue
111036	Mammography CAD Report	A structured report containing the results of computer-aided detection or diagnosis applied to breast imaging and associated clinical information
111037	Margins	The characteristic of the boundary, edges or border of a detected lesion
111038	Number of calcifications	The quantity of calcifications detected within an identified group or cluster
111039	Object type	A non-lesion object identified within one or more images
111040	Original Source[1]	Purpose of reference for a COMPOSITE content item that identifies it as the original source of evidence for another content item in the report
111041	Outline[1]	Purpose of reference for an SCOORD content item that identifies the outline or bounding region of a finding or feature
111042	Pathology	The inferred type of disease associated with an identified feature
111043	Patient Orientation Column	The patient orientation relative to the image plane, specified by a value that designates the anatomical direction of the positive column axis (top to bottom)
111044	Patient Orientation Row	The patient orientation relative to the image plane, specified by a value that designates the anatomical direction of the positive row axis (left to right)
111045	Pectoral Muscle Outline[1]	Purpose of reference for an SCOORD content item that is an outline of the pectoral muscle tissue only
111046	Percent Glandular Tissue	Percent of breast area that is mammographically dense.
111047	Probability of cancer	The likelihood that an identified finding or feature is cancerous
111048	Quadrant location	A location identifier based on the division of an area into four regions
111049	Qualitative Difference	A qualitative characteristic of a feature that has changed over time
111050	Quality Assessment	The effect of the quality of an image on its usability
111051	Quality Control Standard	The quality control standard used to make a quality assessment

Code Value	Code Meaning	Definition
111052	Quality Finding	A specific quality related deficiency detected within an image
111053	Recommended Follow-up	Recommended type of follow-up to an imaging procedure, based on interpreted results
111054	Recommended Follow-up Date	Recommended follow-up date to an imaging procedure, based on interpreted results
111055	Recommended Follow-up Interval	Recommended follow-up interval to an imaging procedure, based on interpreted results
111056	Rendering Intent	The recommendation of the producer of a content item regarding presentation of the content item by recipients of the report
111057	Scope of Feature	An indication of how widespread the detection of a feature is within the analyzed image data set
111058	Selected Region Description	A textual description of the contents of a selected region identified within an image
111059	Single Image Finding	An item that was detected on one image
111060	Study Date	Date on which the acquisition of the study information was started
111061	Study Time	Time at which the acquisition of the study information was started
111062	Successful Analyses	A group of analysis algorithms that were attempted and completed successfully
111063	Successful Detections	A group of detection algorithms that were attempted and completed successfully
111064	Summary of Detections	An overall indication of whether the CAD detection algorithms applied were completed successfully
111065	Summary of Analyses	An overall indication of whether the CAD analysis algorithms applied were completed successfully
111066	Vertical Imager Pixel Spacing	Vertical physical distance measured at the front plane of an Image Receptor housing between the center of each pixel
111099	Selected region	A specific area of interest noted within an image
111100	Breast geometry	The surface shape of all or a portion of breast related anatomy
111101	Image Quality	Image quality incorporates the following clinical image evaluation parameters: assessment of positioning, compression, artifacts, exposure, contrast, sharpness, and labeling
111102	Non-lesion	A finding or feature that is identified as a non-anatomic foreign object
111103	Density	A space-occupying lesion identified in a single image or projection

Code Value	Code Meaning	Definition
111104	Individual Calcification	A single identified calcification
111105	Calcification Cluster	Multiple calcifications identified as occupying a small area of tissue (less than 2 cc)
111135	Additional projections	Views not inclusive of MLO and CC (BI-RADS™)
111136	Spot magnification view(s)	A spot or coned down compression of the breast providing a reduction in the thickness and a magnification of the localized area of interest and improved separation of breast tissue
111137	Ultrasound	
111138	Old films for comparison	
111139	Ductography	A medical procedure used for the sampling of mammary duct tissue
111140	Normal interval follow-up	
111141	Any decision to biopsy should be based on clinical assessment	
111142	Follow-up at short interval (1-11 months)	
111143	Biopsy should be considered	
111144	Needle localization and biopsy	
111145	Histology using core biopsy	
111146	Suggestive of malignancy – take appropriate action	
111147	Cytologic analysis	Cellular analysis of specimen
111148	Biopsy should be strongly considered	
111149	Highly suggestive of malignancy – take appropriate action	
111150	Presentation Required: Rendering device is expected to present	The producer of a report intends for a recipient of the report to present or display the associated content item
111151	Presentation Optional: Rendering device may present	The producer of a report considers the presentation or display of the associated content item by a recipient to be optional
111152	Not for Presentation: Rendering device expected not to present	The producer of a report intends for a recipient of the report NOT to present or display the associated content item
111153	Target content items are related temporally	The associated content items are identfied as being the same finding or feature at different points in time
111154	Target content items are related spatially	The associated content items are identified as being the same finding or feature on different projections taken at the same point in time
111155	Target content items are related contra-laterally	The associated content items are identified as being related side-to-side

Code Value	Code Meaning	Definition
111156	Feature detected on the only image	There is one image in the interpreted data set
111157	Feature detected on only one of the images	There is more than one image of the same modality in the interpreted data set
111158	Feature detected on multiple images	There is more than one image of the same modality in the interpreted data set
111159	Feature detected on images from multiple modalities	The interpreted data set contains images from multiple modalities
111168	Scar tissue	The fibrous tissue replacing normal tissues destroyed by disease or injury
111170	J Wire	A medical appliance used for localization of non palpable breast lesions to insure that the proper area is removed in a surgical biopsy
111171	Pacemaker	A medical appliance used for regulating cardiac rhythms
111172	Paddle	A compression device used for obtaining mammographic images
111173	Collimator	A device used for restricting an X-Ray beam
111174	ID Plate	An area designated on a radiographic film for facility and patient ID information
111175	Other Marker	Site specific markers
111176	Unspecified	
111177	View and Laterality Marker is missing	Image quality deficiency according to MQSA
111178	View and Laterality Marker does not have both view and laterality	Image quality deficiency according to MQCM
111179	View and Laterality Marker does not have approved codes	Image quality deficiency according to MQCM
111180	View and Laterality Marker is not near the axilla	Image quality deficiency according to MQCM
111181	View and Laterality Marker overlaps breast tissue	Image quality deficiency according to MQCM
111182	View and Laterality Marker is partially obscured	Image quality deficiency according to MQCM
111183	View and Laterality Marker is incorrect	Image quality deficiency
111184	View and Laterality Marker is off image	Image quality deficiency
111185	Flash is not near edge of film	Image quality deficiency according to MQCM
111186	Flash is illegible, does not fit, or is lopsided	Image quality deficiency according to MQSA
111187	Flash doesn't include patient name and additional patient id	Image quality deficiency according to MQCM
111188	Flash doesn't include date of examination	Image quality deficiency according to MQCM

Code Value	Code Meaning	Definition
111189	Flash doesn't include facility name and location	Image quality deficiency according to MQSA
111190	Flash doesn't include technologist identification	Image quality deficiency according to MQCM
111191	Flash doesn't include cassette/screen/detector identification	Image quality deficiency according to MQCM
111192	Flash doesn't include mammography unit identification	Image quality deficiency according to MQCM
111193	Date sticker is missing	Image quality deficiency according to MQCM
111194	Technical factors missing	Image quality deficiency according to MQCM
111195	Collimation too close to breast	Image quality deficiency according to MQCM
111196	Inadequate compression	Image quality deficiency according to MQCM
111197	MLO Insufficient pectoral muscle	Image quality deficiency according to MQCM
111198	MLO No fat is visualized posterior to fibroglandular tissues	Image quality deficiency according to MQCM
111199	MLO Poor separation of deep and superficial breast tissues	Image quality deficiency according to MQCM
111200	MLO Evidence of motion blur	Image quality deficiency according to MQCM
111201	MLO Inframammary fold is not open	Image quality deficiency according to MQCM
111202	CC Not all medial tissue visualized	Image quality deficiency according to MQCM
111203	CC Nipple not centered on image	Image quality deficiency according to MQCM
111204	CC Posterior nipple line does not measure within 1 cm of MLO	Image quality deficiency according to MQCM
111205	Nipple not in profile	Image quality deficiency
111206	Insufficient implant displacement incorrect	Image quality deficiency according to MQCM
111208	Grid artifact(s)	Feature(s) arising from the acquisition unit's anti-scatter grid mechanism. For two-dimensional systems, such features include those of mechanically damaged or incorrectly positioned grids. For moving or Bucky grids, artifacts may result from intentional grid motion that is inadequate in duration or velocity uniformity.

Code Value	Code Meaning	Definition
111209	Positioning	Inadequate arrangement of the anatomy of interest with respect to the X-ray field and image detector sensitive area. Examples: 1) positioning is "cutoff" when the projection of anatomy of interest falls outside the sensitive area of the detector; 2) "cone cut", in which the X-ray field does not adequately cover the anatomy of interest; 3) detector's sensitive surface is too small to cover the projection of the anatomy of interest; 4) improper angular orientation or "rotation" of anatomy of interest with respect to the X-ray source, or detector; 5) projection of other anatomy or clothing over the anatomy of interest in the image.
111210	Motion blur	Unacceptable image blur resulting from motion of the anatomy of interest during exposure or the inadequately compensated motion of X-ray source with respect to the image detector during exposure.
111211	Under exposed	Inadequate number of quanta reached the detector during exposure. Reasons for under exposed images include low kVp, low mAs product, excess Source Image Distance. Under exposed images have inadequate signal and higher noise in the areas of interest.
111212	Over exposed	An excess number of quanta reached the detector during exposure. Reasons for over exposed images include high kVp, high mAs product, short Source Image Distance. Over exposed images have high signal and lower noise in the areas of interest. Over exposed area may demonstrate lack of contrast from over saturation of the detector.
111213	No image	No evidence of a patient exposure.
111214	Detector artifact(s)	Superposed features or flaws of the detector.
111215	Artifact(s) other than grid or detector artifact	Features or discontinuities arising from causes other than the anti-scatter grid and image detector.
111216	Mechanical failure	
111217	Electrical failure	
111218	Software failure	Attributable to software used in generation or handling of image
111219	Inappropriate image processing	
111220	Other failure	
111221	Unknown failure	

Code Value	Code Meaning	Definition
111222	Succeeded	The attempted process was completely successful
111223	Partially Succeeded	The attempted process succeeded in some ways, but failed in others
111224	Failed	The attempted process completely failed
111225	Not Attempted	No process was performed
111233	Individual Impression / Recommendation Analysis	Analysis of a related group of findings or features detected during image data inspection, to produce a summary impression and/or recommendation
111234	Overall Impression / Recommendation Analysis	Analysis of all groups of findings or features, to produce a single impression and/or recommendation
111235	Unusable— Quality renders image unusable	The usability of an image for diagnostic interpretation or CAD, based on a quality control standard
111236	Usable— Does not meet the quality control standard	The usability of an image for diagnostic interpretation or CAD, based on a quality control standard
111237	Usable— Meets the quality control standard	The usability of an image for diagnostic interpretation or CAD, based on a quality control standard
111238	Mammography Quality Control Manual 1999, ACR	An image quality control standard
111239	Title 21 CFR Section 900, Subpart B	An image quality control standard
111240	Institutionally defined quality control standard	An image quality control standard
111241	All algorithms succeeded; without findings	No findings resulted upon successful completion of all attempted computer-aided detection and/or analysis
111242	All algorithms succeeded; with findings	One or more findings resulted upon successful completion of all attempted computer-aided detection and/or analysis
111243	Not all algorithms succeeded; without findings	No findings resulted from the attempted computer-aided detection and/or analysis, but one or more failures occurred in the process
111244	Not all algorithms succeeded; with findings	One or more findings resulted from the attempted computer-aided detection and/or analysis, but one or more failures occurred in the process
111245	No algorithms succeeded; without findings	All of the attempted computer-aided detection and/or analysis failed, so there could be no findings
111248	Adenolipoma	A benign tumor having glandular characteristics but composed of fat, with the presence of normal mammary ducts

Code Value	Code Meaning	Definition
111249	Ductal hyperplasia	
111250	Adenomyoepithelioma	Neoplasms composed of myoepithelial cells
111251	Normal axillary node	
111252	Axillary node with calcifications	
111253	Axillary node hyperplasia	Excessive proliferation of normal tissue arrangement of the axillary node
111254	Asynchronous involution	
111255	Benign cyst with blood	
111256	Benign Calcifications	
111257	Intracystic papilloma	Growing within a cystic adenoma, filling the cavity with a mass of branching epithelial processes
111258	Ductal adenoma	Adenoma located in mammary duct, present as discrete sclerotic nodules, solitary or mulitple
111259	Diabetic fibrous mastopathy	The occurrence of fibrous tumor-forming stromal proliferation in patients with diabetes mellitus
111260	Extra abdomenal desmoid	A deep seated firm tumor frequently occurring on the chest consisting of collagenous tissue that infiltrates surround muscle; frequently recurs but does not metastasize
111262	Epidermal inclusion cyst	A cyst formed of a mass of epithelial cells, as a result of trauma has been pushed beneath the epidermis. The cyst is lined with squamous epithelium and contains concentric layers or keratin
111263	Fibroadenomatoid hyperplasia	
111264	Fibroadenolipoma	A lipoma with an abundant stroma of fibrous tissue
111265	Foreign body (reaction)	
111269	Galactocele	Retention cyst caused by occlusion of a lactiferous duct
111271	Hemangioma – nonparenchymal, subcutaneous	A congenital anomaly that leads to a proliferation of blood vessels leading to a mass that resembles a neoplasm, not located in parenchymal areas but subcutaneous
111273	Hyperplasia, usual	
111277	Juvenile papillomatosis	A form of fibrocystic disease in young woman with florid and sclerosing adenosis that microscopically may suggest carcinoma
111278	Lactating adenoma	Enlarging masses during lactation. A circumscribed benign tumor composed primarily of glandular structures with scanty stroma, with prominent secretory changes in the duct

Code Value	Code Meaning	Definition
111279	Lactational change	Changes related to the process of lactation
111281	Large duct papilloma	A papilloma pertaining to large mammary duct
111283	Myofibroblastoma	Solitary or multiple tumors of muscles and fibrous tissues, or tumors composed of myofibroblasts
111284	Microglandular adenosis	Irregular clusters of small tubules are present in adipose or fibrous tissue, resembling tubular carcinoma but lacking stromal fibroblastic proliferation
111285	Multiple Intraductal Papillomas	Papilloma typically involving an aggregate of adjacent ducts in the periphery of the breast, likely representing involvement of several foci of one or two duct systems
111286	No abnormality	
111287	Normal breast tissue	
111288	Neurofibromatosis	Condition in which there are tumors of various sizes on peripheral nerves. They may be neuromas or fibromas
111290	Oil cyst (fat necrosis cyst)	A cyst resulting from the loss of the epithelial lining of a sebaceous dermoid or lacteal cyst
111291	Post reduction mammoplasty	
111292	Pseudoangiomatous stromal hyperplasia	A benign stromal lesion composed of intermixed stromal and epithial elements. The lobular and duct structures of the breast parenchyma are separated by an increased amount of stroma, non specific proliferative epithelial changes include hyperplasia of duct and lobular epithelium often with accentuation of myoepithelial cells and aprocine metaplasia with or without cyst formation
111293	Radial scar	An nonencapsulated stellate lesion consisting of a fibroelastic core and radiating bands of fibrous connective tissue containing lobules manifesting adenosis and ducts with papillary or diffuse intraductal hyperplasia
111294	Sclerosing adenosis	Prominent interductal fibrosis of the terminal ductules
111296	Silicone granuloma	
111297	Nipple Characteristic	The morphologic status of the nipple
111298	Virginal hyperplasia	
111299	Peripheral duct papillomas	Papilloma(s) pertaining the peripheral ducts
111300	Axillary node with lymphoma	
111301	Axillary nodal metastases	Metastatic disease to the axillary node

Code Value	Code Meaning	Definition
111302	Angiosarcoma	A malignant neoplasm occurring most often in breast and skin, believed to originate from endothelial cells of blood vessels, microscopically composed of closely packed round or spindle shaped cells, some of which line small spaces resembling vascular clefts
111303	Blood vessel (vascular) invasion	
111304	Carcinoma in children	
111305	Carcinoma in ectopic breast	
111306	Carcinoma with endocrine differentiation	
111307	Basal cell carcinoma of nipple	
111308	Carcinoma with metaplasia	
111309	Cartilaginous and osseous change	
111310	Carcinoma in pregnancy and lactation	
111311	Carcinosarcoma	A malignant neopalsm that contains elements of carcinoma and sarcoma, so extensively intermixed as to indicate neoplasia of epithelial and mesenchymal tissue
111312	Intraductal comedocarcinoma with necrosis	Comedocarcinoma of a duct with areas of necrotic tissue
111313	Intraductal carcinoma, low grade	
111314	Intraductal carcinoma micro-papillary	
111315	Intracystic papillary carcinoma	
111316	Invasive and in-situ carcinoma	
111317	Invasive lobular carcinoma	
111318	Leukemic infiltration	
111320	Lympathic vessel invasion	
111321	Lymphoma	A heterogenous group of neoplasms arising in the reticuloendoethelial and lymphatic systems
111322	Occult carcinoma presenting with axillary lymph node metastases	
111323	Metastatic cancer to the breast	
111324	Metastatic cancer to the breast from the colon	
111325	Metastatic cancer to the breast from the lung	
111326	Metastatic melanoma to the breast	
111327	Metastatic cancer to the breast from the ovary	
111328	Metastatic sarcoma to the breast	

Code Value	Code Meaning	Definition
111329	Multifocal intraductal carcinoma	
111330	Metastatic disease to axillary node	
111331	Malignant fibrous histiocytoma	
111332	Multifocal invasive ductal carcinoma	Multiple sites of ductal carcinoma
111333	Metastasis to an intramammary lymph node	
111334	Malignant melanoma of nipple	
111335	Neoplasm of the mammary skin	
111336	Papillary carcinoma in-situ	
111338	Recurrent malignancy	
111340	Squamous cell carcinoma of the nipple	
111341	Intraductal carcinoma, high grade	
111342	Invasive cribriform carcinoma	

Add the following definitions to Part 16 Annex E French Translations…

Annex E   French Translations of Selected Codes used in the DCMR (Normative)

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
BI	3.0	II.AC.a	0 - Need additional imaging evaluation	0. Examen d'imagerie complémentaire nécessaire
BI	3.0	II.AC.b.1	1 – Negative	1. Négatif
SRT	1.1	F-01781	1 o'clock position	Situé à 1 heure
SRT	1.1	F-0178A	10 o'clock position	Situé à 10 heures
SRT	1.1	F-0178B	11 o'clock position	Situé à 11 heures
SRT	1.1	F-0178C	12 o'clock position	Situé à 12 heures
BI	3.0	II.AC.b.2	2 – Benign	2. Bénin
SRT	1.1	F-01782	2 o'clock position	Situé à 2 heures
BI	3.0	II.AC.b.3	3 - Probably benign – short interval follow-up (1-11 months)	3. Probablement bénin – surveillance à court terme (1 à 11 mois)
SRT	1.1	F-01783	3 o'clock position	Situé à 3 heures
BI	3.0	II.AC.b.4	4 - Suspicious abnormality, biopsy should be considered	4. Anomalie suspecte, biopsie à envisager
SRT	1.1	F-01784	4 o'clock position	Situé à 4 heures
BI	3.0	II.AC.b.5	5 - Highly suggestive of malignancy, take appropriate action	5. Très évocateur de malignité, agir en conséquence
SRT	1.1	F-01785	5 o'clock position	Situé à 5 heures
SRT	1.1	F-01786	6 o'clock position	Situé à 6 heures
SRT	1.1	F-01787	7 o'clock position	Situé à 7 heures
SRT	1.1	F-01788	8 o'clock position	Situé à 8 heures
SRT	1.1	F-01789	9 o'clock position	Situé à 9 heures
SNM3		M-41610	Abscess	Abcès
DCM		111135	Additional projections	Incidence complémentaire
SNM3		M-82003	Adenoid cystic carcinoma	Carcinome adénoïde kystique (cylindrome)
DCM		111248	Adenolipoma	Adénolipome
SNM3		M-81400	Adenoma	Adénome
DCM		111250	Adenomyoepithelioma	Adénomyoépithéliome
SNM3		M-74200	Adenosis	Adénose
DCM		111001	Algorithm Name	Nom de l'algorithme
DCM		111002	Algorithm Parameters	Paramètres de l'algorithme

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111003	Algorithm Version	Version de l'algorithme
DCM		111242	All algorithms succeeded; with findings	Tous les algorithmes ont réussi ; avec élément découvert
DCM		111241	All algorithms succeeded; without findings	Tous les algorithmes ont réussi ; sans élément découvert
SRT	1.1	F-01711	Almost entirely fat	Presque entièrement graisseux
SRT	1.1	F-0176C	Amorphous calcification	Calcification amorphe
SNM3		M-55160	Amyloid (tumor)	(Tumeur) amyloïde
DCM		111004	Analysis Performed	Analyse effectuée
SNM3		M-88610	Angiolipoma	Angiolipome
SNM3		M-76100	Angiomatosis	Angiomatose
DCM		111302	Angiosarcoma	Angiosarcome (hémangiosarcome)
SNM3		G-A105	Anterior	Antérieur
DCM		111141	Any decision to biopsy should be based on clinical assessment	La décision de biopsie devrait être basée sur les constatations cliniques
SNM3		M-84013	Apocrine adenocarcinoma	Carcinome apocrine
SNM3		M-73310	Apocrine Metaplasia	Métaplasie apocrine
BI	3.0	I.C	Architectural distortion	Distorsion architecturale
DCM		111215	Artifact(s) other than grid or detector artifact	Artéfacts autres qu'artéfacts de grille ou du détecteur
DCM		111005	Assessment Category	Catégorie
SRT	1.1	F-01793	Asymmetric breast tissue	Asymétrie du tissu mammaire
SRT	1.1	P5-B3412	Asymmetric breast tissue analysis	Analyse de l'asymétrie du tissu mammaire
DCM		111254	Asynchronous involution	Involution asynchrone
SNM3		M-72175	Atypical intraductal hyperplasia	Hyperplasie intracanalaire atypique
SNM3		M-72105	Atypical lobular hyperplasia	Hyperplasie lobulaire atypique
SRT	1.1	F-01794	Axilla position	Aisselle
BI	3.0	I.E.6	Axillary adenopathy	Adénopathie axillaire
DCM		111301	Axillary nodal metastases	Métastases ganglionnaires axillaire
DCM		111253	Axillary node hyperplasia	Hyperplasie dans ganglion axillaire
DCM		111252	Axillary node with calcifications	Ganglion axillaire avec calcifications
DCM		111300	Axillary node with lymphoma	Lympphome dans ganglion axillaire

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
SRT	1.1	F-0178E	Axillary tail position	Situé dans le prolongement axillaire du sein
DCM		111307	Basal cell carcinoma of the nipple	Carcinome basocellulaire du mamelon
SNM3		A-32475	BB shot (Lead Pellet)	Marque de plomb (Grain de plomb)
DCM		111256	Benign Calcifications	Calcifications bénignes
DCM		111255	Benign cyst with blood	Kyste bénin hémorragique
SNM3		D7-F0810	Benign neoplasm of nipple of female breast (Nipple adenoma)	Adénomatose (papillomatose) érosive du mamelon
DCM		111143	Biopsy should be considered	Biopsie à envisager
DCM		111148	Biopsy should be strongly considered	Biopsie à envisager absolument
DCM		111303	Blood vessel (vascular) invasion	Embole vasculaire
SNM3		T-04080	Both breasts	Les deux seins
DCM		111006	Breast composition	Composition du sein
SRT	1.1	P5-B3414	Breast composition analysis	Analyse de la composition mammaire
DCM		111100	Breast geometry	Morphologie du sein
SNM3		D7-90428	Breast lobular hyperplasia	Hyperplasie lobulaire mammaire
DCM		111007	Breast Outline including Pectoral Muscle Tissue	Limites du sein incluant le muscle pectoral
SNM3		A-32110	Bullet	Balle
DCM		111017	CAD Processing and Findings Summary	Résumé du traitement et des résultats du système de DAO[1]
DCM		111105	Calcification Cluster	Foyer de microcalcifications
DCM		111008	Calcification Distribution	Distribution des calcifications
DCM		111009	Calcification Type	Type de calcification
SRT	1.1	F-01769	Calcified skin of breast	Calcification cutanée
SRT	1.1	F-0176A	Calcified suture material	Suture
DCM		111304	Carcinoma in children	Carcinome de l'enfant
DCM		111305	Carcinoma in ectopic breast	Carcinome sur glande mammaire ectopique
DCM		111310	Carcinoma in pregnancy and lactation	Carcinome au cours de la grossesse et de la lactation
SNM3		D7-F0902	Carcinoma in situ of male breast	Carcinome de l'homme
DCM		111306	Carcinoma with endocrine differentiation	Carcinome avec différenciation endocrine

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[1] DAO = Détection Assistée par Ordinateur

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111308	Carcinoma with metaplasia	Carcinome métaplasique
DCM		111311	Carcinosarcoma	Carcinosarcome
DCM		111309	Cartilaginous and osseous change	Métaplasie cartilagineuse ou osseuse
SNM3		A-26800	Catheter	Cathéter
DCM		111203	CC Nipple not centered on image	Face : mamelon non centré sur l'image
DCM		111202	CC Not all medial tissue visualized	Face : le tissu interne n'est pas totalement visible
DCM		111204	CC Posterior nipple line does not measure within 1 cm of MLO	Face : longueur de la ligne rétroaréolaire sur la face plus courte de plus d'un centimètre que sur l'oblique
DCM		111010	Center	Centre
SRT	1.1	F-0178F	Central portion of breast position	Situé dans la partie centrale du sein
DCM		111011	Certainty of Feature	Certitude concernant la caractéristique
DCM		111012	Certainty of Finding	Certitude concernant le résultat
DCM		111013	Certainty of Impression	Certitude concernant l'impression
SNM3		M-92200	Chondroma	Chondrome
SNM3		M-92203	Chondrosarcoma	Chondrosarcome
SRT	1.1	F-01741	Circumscribed lesion	Circonscrites (bien délimitée ou contour net)
SNM3		A-12062	Clip	Clip
DCM		111014	Clockface or region	Quadrant ou région
SRT	1.1	F-01761	Coarse (popcorn-like) calcification	Grossière (en popcorn ou coralliforme)
DCM		111195	Collimation too close to breast	Collimation trop proche du sein
DCM		111173	Collimator	Collimateur
SNM3		M-85013	Comedocarcinoma (intraductal)	Carcinome intracanalaire de type comédo
DCM		111015	Composite Feature	Caractéristique composite
DCM		111016	Composite type	Type composite
DCM		111018	Content Date	Date du contenu
DCM		111019	Content Time	Heure du contenu
SNM3		C-B0300	Contrast agent NOS	Produit de contraste, SAI
SNM3		D7-90360	Cyst of breast	Kyste du sein
DCM		111147	Cytologic analysis	Analyse cytologique
DCM		111193	Date sticker is missing	L'étiquette de date est absente

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
UCUM	1.4	d	Day	Jour
SRT	1.1	F-01727	Decrease in number of calcifications	Diminution du nombre de calcifications
SRT	1.1	M-02530	Decrease in size	Diminution de taille
DCM		111103	Density	Opacité
DCM		111020	Depth	Profondeur
DCM		111021	Description of Change	Description des modifications
DCM		111022	Detection Performed	Détection effectuée
DCM		111214	Detector artifact(s)	Artéfacts du détecteur
DCM		111259	Diabetic fibrous mastopathy	Mastopathie diabétique
SRT	1.1	F-017B3	Difference in location	Différence de localisation
SRT	1.1	F-017B7	Difference in margin	Différence de limites
SRT	1.1	F-017B5	Difference in number of calcifications	Différence de nombre de calcifications
SRT	1.1	F-017B2	Difference in opacity	Différence de opacité
SRT	1.1	F-017B6	Difference in shape	Différence de forme
SRT	1.1	F-017B1	Difference in size	Différence de taille
SRT	1.1	F-017B4	Difference in spatial proximity	Différence de proximité dans l'espace
SRT	1.1	F-017B8	Difference in symmetry	Différence de symétrie
DCM		111023	Differential Diagnosis/Impression	Diagnostic différentiel/Impression
SRT	1.1	F-01770	Diffuse calcification distribution	Diffuses/disséminées
DCM		111258	Ductal adenoma	Adénome ductal
DCM		111249	Ductal hyperplasia, Usual	Hyperplasie canalaire
DCM		111139	Ductography	Galactographie
SRT	1.1	F-01762	Dystrophic calcification	Dystrophique
SNM3		D4-48014	Ectopic (accessory) breast tissue	Tissu mammaire ectopique (glande mammaire accessoire)
SNM3		M-36300	Edema	Oedème
SRT	1.1	F-01763	Eggshell calcification	En coquille d'œuf ou annulaire
DCM		111217	Electrical failure	Défaillance électrique
DCM		111262	Epidermal inclusion cyst	Kyste épidermique
SRT	1.1	F-01752	Equal density (isodense) lesion	Lésion de densité identique (isodense)
DCM		111260	Extra abdomenal desmoid	Tumeur desmoïde extraabdominale
SRT	1.1	F-01714	Extremely dense	Très dense
DCM		111224	Failed	Echec

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111024	Failed Analyses	Échec des analyses
DCM		111025	Failed Detections	Échec des détections
SRT	1.1	F-01754	Fat containing (radiolucent) lesion	Lésion contenant de la graisse (radiotransparent)
SNM3		D7-90434	Fat necrosis of breast	Cytostéatonécrose mammaire
DCM		111159	Feature detected on images from multiple modalities	Caractéristique détectée sur les images provenant de plusieurs modalités
DCM		111158	Feature detected on multiple images	Caractéristique détectée sur plusieurs images
DCM		111157	Feature detected on only one of the images	Caractéristique détectée sur une seule des images
DCM		111156	Feature detected on the only image	Caractéristique détectée sur la seule image
DCM		111264	Fibroadenolipoma	Adénofibrolipome
SNM3		M-90100	Fibroadenoma	Fibroadénome
DCM		111263	Fibroadenomatoid hyperplasia	Hyperplasie fibro-adénomatoïde
SNM3		D7-90310	Fibrocystic disease of breast	Dysplasie fibrokystique du sein
SNM3		M-78800	Fibromatosis	Fibomatose
SNM3		M-88103	Fibrosarcoma	Fibrosarcome
SRT	1.1	F-01722	Finding partially removed	Exérèse partielle de l'élément
SRT	1.1	F-0176D	Fine, linear (casting) calcification	Fine linéaire, ou fine linéaire ramifiée (moule galactophorique)
SRT	1.1	F-0176E	Fine, linear, branching (casting) calcification	Fine linéaire, ou fine linéaire ramifiée (moule galactophorique)
DCM		111191	Flash doesn't include cassette/screen/detector identification	Le marquage n'indique pas l'identifiant de cassette/écran/détecteur
DCM		111188	Flash doesn't include date of examination	Le marquage n'indique pas la date de l'examen
DCM		111189	Flash doesn't include facility name and location	Le marquage n'indique ni le nom de l'établissement ni son adresse
DCM		111192	Flash doesn't include mammography unit identification	Le marquage n'indique pas l'identifiant du mammographe
DCM		111187	Flash doesn't include patient name and additional patient id	Le marquage n'indique ni le nom du patient ni son identifiant.
DCM		111190	Flash doesn't include technologist identification	n.a.

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111186	Flash is illegible, does not fit, or is lopsided	Le marquage est illisible, mal positionné ou de travers
DCM		111185	Flash is not near edge of film	Le marquage n'est pas au bord du film
SRT	1.1	F-01792	Focal asymmetric breast tissue	Asymétrie focale du tissu mammaire
SRT	1.1	P5-B3410	Focal asymmetric density analysis	Analyse de l'asymétrie focale de densité
SNM3		M-78266	Focal fibrosis	Fibrose focale
DCM		111142	Follow-up at short interval (1-11 months)	Surveillance à court terme (1-11 mois)
DCM		111265	Foreign body (reaction)	Réaction à corps étranger
DCM		111269	Galactocele	Galactocèle
SNM3		M-90160	Giant fibroadenoma	Adénofibrome géant
SNM3		M-83153	Glycogen-rich carcinoma	Carcinome riche en glycogène
SNM3		M-95800	Granular cell tumor	Tumeur à cellules granuleuses
DCM		111208	Grid artifact(s)	Artéfact(s) de grille
SRT	1.1	F-01772	Grouped calcification distribution	Calcification groupées (ou en foyer)
SNM3		D7-90420	Gynecomastia	Gynécomastie
SNM3		M-75500	Hamartoma	Hamartome
SNM3		M-91200	Hemangioma	Hémangiome
DCM		111271	Hemangioma – nonparenchymal, subcutaneous	Hémangiome sous-cutané non parenchymateux
SNM3		M-91220	Hemangioma – venous	Hémangiome veineux
SNM3		M-91501	Hemangiopericytoma	Hémangiopéricytome
SNM3		M-35060	Hematoma	Hématome
SRT	1.1	F-0176F	Heterogeneous calcification	Calcification punctiforme irrégulière (polymorphe, hétérogène)
SRT	1.1	F-01713	Heterogeneously dense	Dense et hétérogène
SRT	1.1	F-01751	High density lesion	Lésion de densité élevée
DCM		111149	Highly suggestive of malignancy – take appropriate action	Haute probabilité de malignité - une action appropriée doit être entreprise
DCM		111145	Histology using core biopsy	Histologie par biopsie à l'aiguille
SNM3		DC-F1000	Hodgkin's disease (lymphoma)	Maladie de Hodgkin
DCM		111026	Horizontal Imager Pixel Spacing	Espacement horizontal des pixels de l'imageur
DCM		111273	Hyperplasia, usual	Hyperplasie simple
DCM		111174	ID Plate	Zone d'identification

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111027	Image Laterality	Latéralité de l'image
DCM		111028	Image Library	Bibliothèque d'images
DCM		111101	Image Quality	Qualité image
SRT	1.1	P5-B3408	Image quality analysis	Analyse de la qualité d'image
DCM		111029	Image Quality Rating	Score de qualité image
DCM		111030	Image Region	Région de l'image
DCM		111031	Image View	L'incidence
DCM		111032	Image View Modifier	Modificateur du l'incidence
SNM3		A-04010	Implant	Prothèse
SRT	1.1	F-0172B	Implant revised since previous mammogram	Contrôle de la prothèse mammaire
DCM		111033	Impression Description	Description de l'impression
DCM		111196	Inadequate compression	Compression inadéquate
DCM		111219	Inappropriate image processing	Défaillance du processus de traitement d'image
SRT	1.1	F-01726	Increase in number of calcifications	Augmentation du nombre de calcifications
SRT	1.1	M-02520	Increase in size	Augmentation de taille
SRT	1.1	F-01744	Indistinct lesion	Mal définies
DCM		111104	Individual Calcification	Calcification isolée
DCM		111233	Individual Impression / Recommendation Analysis	Analyse de l'Impression / recommandation élémentaire
DCM		111034	Individual Impression/Recommendation	Impression élémentaire/Recommandation
SNM3		D7-90452	Infarction of breast	Infarctus mammaire
SNM3		M-40000	Inflammation	Infection
SNM3		M-85303	Inflammatory carcinoma	Carcinome inflammatoire
DCM		111240	Institutionally defined quality control standard	Standards de contrôle de qualité définis par l'institution
DCM		111206	Insufficient implant displacement incorrect	Refoulement de la prothèse insuffisant
DCM		111315	Intracystic papillary carcinoma	Carcinome papillaire intrakystique
DCM		111257	Intracystic papilloma	Papillome intrakystique
DCM		111314	Intraductal carcinoma micro-papillary	Carcinome intracanalaire de type micropapillaire
DCM		111341	Intraductal carcinoma, high grade	Carcinome intracanalaire
DCM		111313	Intraductal carcinoma, low grade	Carcinome intracanalaire de bas grade

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111312	Intraductal comedocarcinoma with necrosis	Carcinome intracanalaire de type comédo avec nécrose
SNM3		M-85030	Intraductal papilloma	Papillome intragalactophorique
BI	3.0	I.D.2	Intra-mammary lymph node	Ganglion intramammaire
DCM		111316	Invasive and in-situ carcinoma	Carcinome infiltrant et in situ
DCM		111342	Invasive cribriform carcinoma	Carcinome infiltrant cribriforme
SNM3		M-85003	Infiltrating duct carcinoma	Carcinome canalaire infiltrant
DCM		111317	Invasive lobular carcinoma	Carcinome lobulaire infiltrant
SNM3	3.4	G-A402	Irregular	Irrégulière
DCM		111170	J Wire	Hameçon
SNM3		M-90300	Juvenile fibroadenoma	Fibroadénome juvénile
DCM		111277	Juvenille papillomatosis	Papillomatose juvénile
DCM		111278	Lactating adenoma	Adénome lactant
DCM		111279	Lactational change	Lobule sécrétant
DCM		111281	Large duct papilloma	Papillome solitaire
SRT	1.1	F-01764	Large rod-like calcification	En bâtonnet
SNM3		T-04030	Left breast	Sein gauche
SNM3		M-88900	Leiomyoma	Léiomyome
SNM3		M-88903	Leiomyosarcoma	Léiomyosarcome
DCM		111035	Lesion Density	Densité de la lésion
SRT	1.1	F-01728	Less defined	Moins bien limité
DCM		111318	Leukemic infiltration	Infiltration leucémique
SRT	1.1	F-01771	Linear calcification distribution	Linéaires
SNM3		M-83143	Lipid-rich (lipid-secreting) carcinoma	Carcinome à cellules lipidiques
SNM3		M-88500	Lipoma of the breast	Lipome
SNM3		M-88503	Liposarcoma	Liposarcome
SNM3	3.4	G-A640	Lobular	Lobulée
SNM3		D7-F0A02	Lobular carcinoma in situ of breast	Carcinome lobulaire in situ mammaire
SRT	1.1	F-01753	Low density (not containing fat) lesion	Faible densité (sans contenu graisseux)
SRT	1.0	T-04003	Lower inner quadrant of breast	Quadrant inféro-interne du sein
SRT	1.0	T-04005	Lower outer quadrant of breast	Quadrant inféro-externe du sein
SRT	1.1	F-01766	Lucent-centered calcification	À centre clair
DCM		111320	Lymphatic vessel invasion	Embole lymphatique
SNM3		T-C4000	Lymph node	Ganglion lymphatique
DCM		111321	Lymphoma	Lymphome

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
SNM3		R-102D6	Magnification views	Agrandissements
DCM		111331	Malignant fibrous histiocytoma	Histiocytofibrome malin
DCM		111334	Malignant melanoma of nipple	Mélanome malin du mamelon
SNM3		D7-90370	Mammary duct ectasia	Galactophorite ectasiante mammaire (ectasie canalaire mammaire)
SRT	1.1	F-01791	Mammographic breast mass	Masse du sein à la mammographie
DCM		111036	Mammography CAD Report	Compte rendu d'analyse mammographique par système de DAO
DCM		111238	Mammography Quality Control Manual 1999, ACR	Applicable only for mass screening. Not yet applicable for other case of practice but work in progress in France. We will provide references ASAP when will find them.
DCM		111037	Margins	Limites
DCM		111216	Mechanical failure	Défaillance mécanique
SNM3		M-85103	Medullary carcinoma	Carcinome médullaire
SNM3		J-83250	Metal (Lead) Marker	Marqueur (plombé)
DCM		111333	Metastasis to an intramammary lymph node	Ganglion intramammaire métastatique
DCM		111323	Metastatic cancer to the breast	Cancer métastatique au sein
DCM		111324	Metastatic cancer to the breast from the colon	Métastase intramammaire d'un cancer colique
DCM		111325	Metastatic cancer to the breast from the lung	Métastase intramammaire d'un cancer pulmonaire
DCM		111327	Metastatic cancer to the breast from the ovary	Métastase intramammaire d'un cancer ovarien
DCM		111330	Metastatic disease to axillary node	Ganglion axillaire métastatique
DCM		111326	Metastatic melanoma to the breast	Métastase intramammaire d'un mélanome malin
DCM		111328	Metastatic sarcoma to the breast	Métastase intramammaire d'un sarcome
DCM		111284	Microglandular adenosis	Adénose microglandulaire
SRT	1.1	F-01742	Microlobulated lesion	Microlobulées
SNM3		G-A109	Middle	Médian
SRT	1.1	F-01765	Milk of calcium calcification	Sédiment calcique
DCM		111200	MLO Evidence of motion blur	Oblique externe : présence d'un flou cinétique

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111201	MLO Inframammary fold is not open	Oblique externe : sillon sous-mammaire non visible
DCM		111197	MLO Insufficient pectoral muscle	Oblique externe : muscle pectoral insuffisamment visible
DCM		111198	MLO No fat is visualized posterior to fibroglandular tissues	Oblique externe : lame graisseuse rétroglandulaire non visualisée
DCM		111199	MLO Poor separation of deep and superficial breast tissues	Oblique externe : mauvaise séparation des tissus superficiels et profonds
UCUM	1.4	mo	Month	Mois
SRT	1.1	F-01729	More defined	Mieux limité
DCM		111210	Motion blur	Mouvement du patient
SNM3		M-84803	Mucinous adenocarcinoma (Colloid carcinoma)	Carcinome (mucineux) colloïde
DCM		111329	Multifocal intraductal carcinoma	Carcinome intracanalaire multifocal
DCM		111332	Multifocal invasive ductal carcinoma	Carcinome canalaire infiltrant multifocal
DCM		111285	Multiple Intraductal Papillomas	Papillomes multiples
DCM		111283	Myofibroblastoma	Myofibroblastome
DCM		111144	Needle localization and biopsy	Répérage métallique préopératoire et biopsie-exérèse
DCM		111335	Neoplasm of mammary skin	Tumeur de la peau mammaire
SNM3		M-95400	Neurofibroma	Neurofibrome
DCM		111288	Neurofibromatosis	Neurofibromatose
SRT	1.1	F-01721	New finding	Nouvel élément
SNM3		T-04100	Nipple	Mamelon
DCM		111297	Nipple Characteristic	Caractéristiques du mamelon
DCM		111205	Nipple not in profile	Le mamelon n'est pas de profil
SNM3		D7-90554	Nipple retraction	Rétraction mamelonnaire
DCM		111286	No abnormality	Pas d'anomalie
DCM		111245	No algorithms succeeded; without findings	Aucun algorithme n'a réussi ; sans élément découvert
DCM		111213	No image	Pas d'image
SRT	1.1	F-01723	No significant changes in the finding	Pas de modification significative de l'élément
SNM3		DC-F0002	Non-Hodgkin's lymphoma	Lymphome non hodgkinien
DCM		111102	Non-lesion	Pas de lésion
DCM		111251	Normal axillary node	Ganglion axillaire normal

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111287	Normal breast tissue	Tissu mamaire normal
DCM		111140	Normal interval follow-up	Intervalle normal de surveillance
SNM3		M-02000	Normal shape	Forme normale
DCM		111244	Not all algorithms succeeded; with findings	Certains algorithmes n'ont pas réussi ; avec élément découvert
DCM		111243	Not all algorithms succeeded; without findings	Certains algorithmes n'ont pas réussi ; sans élément découvert
DCM		111225	Not Attempted	Non traité
DCM		111152	Not for Presentation: Rendering device expected not to present	Pas de présentation
DCM		111038	Number of calcifications	Nombre de calcifications
DCM		111039	Object type	Type d'objet
SRT	1.1	F-01743	Obscured lesion	Lésion masquée
DCM		111322	Occult carcinoma presenting with axillary lymph node metastases	Carcinome occulte révélé par des métastases axillaires
DCM		111290	Oil cyst (fat necrosis cyst)	Cytostéatonécrose kystisée
DCM		111138	Old films for comparison	Clichés antérieurs pour comparaison
DCM		111040	Original Source	Source originelle
SNM3		M-91803	Osteogenic sarcoma	Ostéosarcome
DCM		111220	Other failure	Autre défaillance
DCM		111175	Other Marker	Autre marqueur
DCM		111041	Outline	Contours
DCM		111212	Over exposed	Sur-exposé
DCM		111234	Overall Impression / Recommendation Analysis	Analyse de l'Impression / ecommandation globale
SNM3	3.4	M-02120	Ovoid shape (Oval)	Ovale
DCM		111171	Pacemaker	Stimulateur cardiaque
DCM		111172	Paddle	Pelotte de compression
SNM3		M-85403	Paget's disease, mammary (of the nipple)	Maladie de Paget du mamelon
SNM3		M-80503	Papillary carcinoma (invasive)	Carcinome papillaire infiltrant
DCM		111336	Papillary carcinoma in-situ	
SNM3		M-80500	Papilloma	Papillome
DCM		111223	Partially Succeeded	Succès partiel
DCM		111042	Pathology	Pathologie
DCM		111043	Patient Orientation Column	Colonne concernant l'orientation du patient
DCM		111044	Patient Orientation Row	Ligne concernant l'orientation du patient

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111045	Pectoral Muscle Outline	Contour du muscle pectoral
DCM		111046	Percent Glandular Tissue	Pourcentage de tissu glandulaire
DCM		111299	Peripheral duct papillomas	Papillomes périphériques
SNM3		M-90201	Phyllodes tumor	Tumeur phyllode
SNM3		M-90203	Phyllodes tumor, malignant	Sarcome phyllode (Cystosarcome phyllode malin)
SNM3		M-97313	Plasmacytoma	Plasmocytome
SNM3		M-89400	Pleomorphic adenoma	Adénome pléomorphe
DCM		111209	Positioning	Positionnement
DCM		111291	Post reduction mammoplasty	Mammoplastie après réduction
SNM3		G-A106	Posterior	Postérieur
DCM		111151	Presentation Optional: Rendering device may present	Présentation optionnelle
DCM		111150	Presentation Required: Rendering device is expected to present	Présentation requise
DCM		111047	Probability of cancer	Probabilité de cancer
DCM		111292	Pseudoangiomatous stromal hyperplasia	Hyperplasie stromale pseudo-angiomateuse
SRT	1.1	F-01767	Punctate calcification	Punctiforme régulière
DCM		111048	Quadrant location	Localisation du quadrant
DCM		111049	Qualitative Difference	Différence qualitative
DCM		111050	Quality Assessment	Évaluation de la qualité
DCM		111051	Quality Control Standard	Standard de contrôle de qualité
DCM		111052	Quality Finding	Critère de qualité
DCM		111293	Radial scar	Cicatrice radiaire
DCM		111053	Recommended Follow-up	Surveillance recommandée
DCM		111054	Recommended Follow-up Date	Date recommandée de surveillance
DCM		111055	Recommended Follow-up Interval	Intervalle recommandé de surveillance
DCM		111338	Recurrent malignancy	Cancer récidivant
SRT	1.1	F-01773	Regional calcification distribution	Distribution régionale des calcifications
SRT	1.1	F-0172A	Removal of implant since previous mammogram	Exérèse de la prothèse mammaire depuis la mammographie précédente
DCM		111056	Rendering Intent	Intention d'insertion
SNM3		T-04020	Right breast	Sein droit

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
SNM3	3.4	M-02100	Round shape	Ronde
SRT	1.1	F-01768	Round shaped calcification	Calcification ronde
DCM		111168	Scar tissue	Tissu cicatriciel
SRT	1.1	F-01712	Scattered fibroglandular densities	Opacités fibro-glandulaires éparses
DCM		111294	Sclerosing adenosis	Adénose sclérosante
DCM		111057	Scope of Feature	Champ des caractéristiques
SNM3		M-85023	Secretory (juvenile) carcinoma of the breast	Carcinome mammaire sécrétoire (juvénile)
SRT	1.1	F-01774	Segmental calcification distribution	Segmentaires
DCM		111099	Selected region	Région sélectionnée
DCM		111058	Selected Region Description	Description de la région sélectionnée
SNM3		M-36050	Seroma	Lymphocèle
SNM3		M-020F9	Shape	Forme
SNM3		M-84903	Signet ring cell carcinoma	Carcinome à cellules en bague à chaton
DCM		111296	Silicone granuloma	Granulome au silicone
DCM		111059	Single Image Finding	Elément présent sur une seule image
BI	3.0	I.E.5	Skin lesion	Lésion cutanée
BI	3.0	I.E.1	Skin retraction	Rétraction cutanée
BI	3.0	I.E.3	Skin thickening	Épaississement cutané
DCM		111218	Software failure	Défaillance logicielle
SRT	1.1	P5-B3402	Spatial collocation analysis	Analyse de colocalisation spatiale
SRT	1.1	P5-B3404	Spatial proximity analysis	Analyse de proximité spatiale
SRT	1.1	F-01745	Spiculated lesion	Spiculées
SNM3		M-78190	Spindle cell nodule (tumor)	Nodule (tumeur) à cellules fusiformes
SNM3		R-102D7	Spot compression	Compression localisée
DCM		111136	Spot magnification view(s)	Agrandissement localisé
SNM3		M-80703	Squamous cell carcinoma	Carcinome épidermoïde
DCM		111340	Squamous cell carcinoma of the nipple	Carcinome épidermoïde du mamelon
SNM3		A-13600	Staple	Agrafe
DCM		111060	Study Date	Date de l'étude
DCM		111061	Study Time	Heure de l'étude
SRT	1.1	F-0178D	Subareolar position	Situation rétroaréolaire

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111222	Succeeded	Succès
DCM		111062	Successful Analyses	Analyses réussies
DCM		111063	Successful Detections	Procédures de détection réussies
DCM		111146	Suggestive of malignancy – take appropriate action	Évocateur de malignité, agir en conséquence
DCM		111065	Summary of Analyses	Résumé des analyses
DCM		111064	Summary of Detections	Résumé des procédures de détections
SNM3		A-13510	Suture material	Matériel de suture
DCM		111155	Target content items are related contra-laterally	Les items de contenu sont situés de façon controlatérale
DCM		111154	Target content items are related spatially	Les items de contenu sont reliés spatialement
DCM		111153	Target content items are related temporally	Les items de contenu sont reliés temporellement
DCM		111194	Technical factors missing	Paramètres techniques absents
SRT	1.1	P5-B3406	Temporal correlation	Corrélation temporelle
SNM3		D3-87780	Thrombophlebitis of breast (Mondor's disease)	Thrombophlébite du sein (maladie de Mondor)
DCM		111239	Title 21 CFR Section 900, Subpart B	Applicable only for mass screening. Not yet applicable for other case of practice but work in progress in France. We will provide references ASAP when will find them.
BI	3.0	I.E.4	Trabecular thickening	Épaississement trabéculaire
SNM3		M-82113	Tubular adenocarcinoma	Carcinome tubuleux
SNM3		M-82110	Tubular adenoma	Adénome tubuleux
BI	3.0	I.D.1	Tubular density	Opacité tubulaire
DCM		111137	Ultrasound	Échographie
DCM		111211	Under exposed	Sous-exposé
DCM		111221	Unknown failure	Défaillance inconnue
DCM		111176	Unspecified	Non spécifié
DCM		111235	Unusable— Quality renders image unusable	Inexploitable— La qualité rend l'image inexploitable
SRT	1.0	T-04002	Upper inner quadrant of breast	Quadrant supéro-interne du sein
SRT	1.0	T-04004	Upper outer quadrant of breast	Quadrant supéro-externe du sein

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning	Code Meaning French Language
DCM		111236	Usable— Does not meet the quality control standard	Exploitable— Ne répond pas aux standards de contrôle de qualité
DCM		111237	Usable— Meets the quality control standard	Exploitable— Répond aux standards de contrôle de qualité
SRT	1.1	F-0176B	Vascular calcification	Vasculaire
DCM		111066	Vertical Imager Pixel Spacing	Espacement vertical des pixels de l'imageur
DCM		111179	View and Laterality Marker does not have approved codes	n.a.
DCM		111178	View and Laterality Marker does not have both view and laterality	Le marqueur plombé n'indique ni l'incidence ni le côté
DCM		111183	View and Laterality Marker is incorrect	Le marqueur plombé est incorrect
DCM		111177	View and Laterality Marker is missing	Marqueur plombé absent
DCM		111180	View and Laterality Marker is not near the axilla	Le marqueur plombé n'est pas près de l'aisselle
DCM		111184	View and Laterality Marker is off image	Le marqueur plombé est en dehors du film
DCM		111182	View and Laterality Marker is partially obscured	Le marqueur plombé est partiellement masqué
DCM		111181	View and Laterality Marker overlaps breast tissue	Le marqueur plombé chevauche le sein
DCM		111298	Virginal hyperplasia	Hypertrophie juvénile
UCUM	1.4	wk	Week	Semaine
UCUM	1.4	a	Year	Année

The following table provides a mapping of pathologoy codes used in DICOM, to ADICAP (L'association pour le Développement de l'Informatique en Anatomie et Cytologie Pathologiques).

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning French Language	Equivalent ADICAP Code
SNM3		M-82003	Carcinome adénoïde kystique (cylindrome)	A7X6
DCM		111248	Adénolipome	A0L2
DCM		111250	Adénomyoépithéliome	A0A0
SNM3		M-74200	Adénose	6772
SNM3		M-55160	(Tumeur) amyloïde	5310
SNM3		M-88610	Angiolipome	L0P1
SNM3		M-76100	Angiomatose	V0C0
DCM		111302	Angiosarcome (hémangiosarcome)	V7A0

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning French Language	Equivalent ADICAP Code
SNM3		M-84013	Carcinome apocrine	A7K6
SNM3		M-72175	Hyperplasie intracanalaire atypique	6830
SNM3		M-72105	Hyperplasie lobulaire atypique	6840
DCM		111307	Carcinome basocellulaire du mamelon	B7A0
SNM3		D7-90428	Hyperplasie lobulaire mammaire	6721
DCM		111308	Carcinome métaplasique	A7W0
SNM3		M-92200	Chondrome	C0A0
SNM3		M-92203	Chondrosarcome	C7A0
SNM3		D7-90360	Kyste du sein	6544
DCM		111259	Mastopathie diabétique	5010
DCM		111258	Adénome ductal	A0B2
DCM		111249	Hyperplasie canalaire	6712
SNM3		D7-90434	Cytostéatonécrose mammaire	5230
SNM3		M-90100	Fibroadénome	A0P2
SNM3		M-78800	Fibomatose	F0F0
SNM3		M-88103	Fibrosarcome	F7A0
DCM		111265	Réaction à corps étranger	7440
SNM3		M-95800	Tumeur à cellules granuleuses	X0H4
SNM3		D7-90420	Gynécomastie	6551
SNM3		M-75500	Hamartome	D0S0
SNM3		M-91200	Hémangiome	V0A0
DCM		111271	Hémangiome sous-cutané non parenchymateux	V0A0
SNM3		M-91220	Hémangiome veineux	VOA8
SNM3		M-91501	Hémangiopéricytome	V0K0
SNM3		DC-F1000	Maladie de Hodgkin	K7A0
SNM3		D7-90452	Infarctus mammaire	4710
SNM3		M-40000	Infection	7140
DCM		111341	Carcinome intracanalaire	A5B2
SNM3		M-85003	Carcinome canalaire infiltrant	A7A0
DCM		111317	Carcinome lobulaire infiltrant	A7B1
SNM3		M-90300	Fibroadénome juvénile	A0P2
DCM		111278	Adénome lactant	A0M2
SNM3		M-88900	Léiomyome	L0A0
SNM3		M-88903	Léiomyosarcome	L7A0
SNM3		M-88500	Lipome	L0L0
SNM3		D7-F0A02	Carcinome lobulaire in situ mammaire	A5B0
DCM		111334	Mélanome malin du mamelon	M7A0

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning French Language	Equivalent ADICAP Code
SNM3		D7-90370	Galactophorite ectasiante mammaire (ectasie canalaire mammaire)	6546
SNM3		M-85103	Carcinome médullaire	A7X2
DCM		111284	Adénose microglandulaire	6772
SNM3		M-84803	Carcinome (mucineux) colloïde	A7N4
SNM3		M-95400	Neurofibrome	N0L0
SNM3		DC-F0002	Lymphome non hodgkinien	K7G0
SNM3		M-91803	Ostéosarcome	Q7A0
SNM3		M-85403	Maladie de Paget du mamelon	A7B7
SNM3		M-80503	Carcinome papillaire infiltrant	A7C6
SNM3		M-80500	Papillome	A0P4 (unique), A0S4 (multiple)
SNM3		M-90201	Tumeur phyllode	A0P6
SNM3		M-90203	Sarcome phyllode (Cystosarcome phyllode malin)	A7P6
SNM3		M-97313	Plasmocytome	K7M0
SNM3		M-89400	Adénome pléomorphe	A0R8
DCM		111293	Cicatrice radiaire	6773
DCM		111294	Adénose sclérosante	6772
SNM3		M-85023	Carcinome mammaire sécrétoire (juvénile)	A7N7
DCM		111340	Carcinome épidermoïde du mamelon	E7A0
SNM3		M-82113	Carcinome tubuleux	A7F0
SNM3		M-82110	Adénome tubuleux	A0P1
DCM		111298	Hypertrophie juvénile	6080

Add the following definitions to Part 16 Annex F Japanese Translations…

Annex F   Japanese Translations of Selected Codes used in the DCMR (Normative)

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
BI	3.0	II.AC.a	0 - Need additional imaging evaluation	
BI	3.0	II.AC.b.1	1 – Negative	
SRT	1.1	F-01781	1 o'clock position	1
SRT	1.1	F-0178A	10 o'clock position	
SRT	1.1	F-0178B	11 o'clock position	
SRT	1.1	F-0178C	12 o'clock position	
BI	3.0	II.AC.b.2	2 – Benign	
SRT	1.1	F-01782	2 o'clock position	2
BI	3.0	II.AC.b.3	3 – Probably benign – short interval follow-up (1-11 months)	-
SRT	1.1	F-01783	3 o'clock position	3
BI	3.0	II.AC.b.4	4 – Suspicious abnormality, biopsy should be considered	
SRT	1.1	F-01784	4 o'clock position	4
BI	3.0	II.AC.b.5	5 - Highly suggestive of malignancy, take appropriate action	
SRT	1.1	F-01785	5 o'clock position	5
SRT	1.1	F-01786	6 o'clock position	
SRT	1.1	F-01787	7 o'clock position	
SRT	1.1	F-01788	8 o'clock position	
SRT	1.1	F-01789	9 o'clock position	
SNM3		M-41610	Abscess	
DCM		111135	Additional projections	P
SNM3		M-82003	Adenoid cystic carcinoma	
DCM		111248	Adenolipoma	
SNM3		M-81400	Adenoma	
DCM		111250	Adenomyoepithelioma	
SNM3		M-74200	Adenosis	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111001	Algorithm Name	
DCM		111002	Algorithm Parameters	
DCM		111003	Algorithm Version	
DCM		111242	All algorithms succeeded; with findings	
DCM		111241	All algorithms succeeded; without findings	
SRT	1.1	F-01711	Almost entirely fat	
SRT	1.1	F-0176C	Amorphous calcification	
SNM3		M-55160	Amyloid (tumor)	
DCM		111004	Analysis Performed	
SNM3		M-88610	Angiolipoma	
SNM3		M-76100	Angiomatosis	
DCM		111302	Angiosarcoma	
SNM3		G-A105	Anterior	
DCM		111141	Any decision to biopsy should be based on clinical assessment	D
SNM3		M-84013	Apocrine adenocarcinoma	
SNM3		M-73310	Apocrine Metaplasia	
BI	3.0	I.C	Architectural distortion	
DCM		111215	Artifact(s) other than grid or detector artifact	
DCM		111005	Assessment Category	
SRT	1.1	F-01793	Asymmetric breast tissue	
SRT	1.1	P5-B3412	Asymmetric breast tissue analysis	
DCM		111254	Asynchronous involution	
SNM3		M-72175	Atypical intraductal hyperplasia	
SNM3		M-72105	Atypical lobular hyperplasia	
SRT	1.1	F-01794	Axilla position	
BI	3.0	I.E.6	Axillary adenopathy	
DCM		111301	Axillary nodal metastases	
DCM		111253	Axillary node hyperplasia	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111252	Axillary node with calcifications	
DCM		111300	Axillary node with lymphoma	
SRT	1.1	F-0178E	Axillary tail position	C'
DCM		111307	Basal cell carcinoma of the nipple	
SNM3		A-32475	BB shot (Lead Pellet)	BB
DCM		111256	Benign Calcifications	
DCM		111255	Benign cyst with blood	
SNM3		D7-F0810	Benign neoplasm of nipple of female breast (Nipple adenoma)	
DCM		111143	Biopsy should be considered	B
DCM		111148	Biopsy should be strongly considered	
DCM		111303	Blood vessel (vascular) invasion	
SNM3		T-04080	Both breasts	
DCM		111006	Breast composition	
SRT	1.1	P5-B3414	Breast composition analysis	
DCM		111100	Breast geometry	
SNM3		D7-90428	Breast lobular hyperplasia	
DCM		111007	Breast Outline including Pectoral Muscle Tissue	
SNM3		A-32110	Bullet	
DCM		111017	CAD Processing and Findings Summary	CAD
DCM		111105	Calcification Cluster	
DCM		111008	Calcification Distribution	
DCM		111009	Calcification Type	
SRT	1.1	F-01769	Calcified skin of breast	
SRT	1.1	F-0176A	Calcified suture material	
DCM		111304	Carcinoma in children	
DCM		111305	Carcinoma in ectopic breast	
DCM		111310	Carcinoma in pregnancy and lactation	
SNM3		D7-F0902	Carcinoma in situ of male breast	
DCM		111306	Carcinoma with endocrine differentiation	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111308	Carcinoma with metaplasia	
DCM		111311	Carcinosarcoma	
DCM		111309	Cartilaginous and osseous change	
SNM3		A-26800	Catheter	
DCM		111203	CC Nipple not centered on image	
DCM		111202	CC Not all medial tissue visualized	
DCM		111204	CC Posterior nipple line does not measure within 1 cm of MLO	
DCM		111010	Center	
SRT	1.1	F-0178F	Central portion of breast position	
DCM		111011	Certainty of Feature	
DCM		111012	Certainty of Finding	
DCM		111013	Certainty of Impression	
SNM3		M-92200	Chondroma	
SNM3		M-92203	Chondrosarcoma	
SRT	1.1	F-01741	Circumscribed lesion	
SNM3		A-12062	Clip	
DCM		111014	Clockface or region	
SRT	1.1	F-01761	Coarse (popcorn-like) calcification	
DCM		111195	Collimation too close to breast	
DCM		111173	Collimator	
SNM3		M-85013	Comedocarcinoma (intraductal)	
DCM		111015	Composite Feature	
DCM		111016	Composite type	
DCM		111018	Content Date	
DCM		111019	Content Time	
SNM3		C-B0300	Contrast agent NOS	
SNM3		D7-90360	Cyst of breast	
DCM		111147	Cytologic analysis	Y

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111193	Date sticker is missing	
UCUM	1.4	d	Day	
SRT	1.1	F-01727	Decrease in number of calcifications	
SRT	1.1	M-02530	Decrease in size	
DCM		111103	Density	
DCM		111020	Depth	
DCM		111021	Description of Change	
DCM		111022	Detection Performed	
DCM		111214	Detector artifact(s)	
DCM		111259	Diabetic fibrous mastopathy	
SRT	1.1	F-017B3	Difference in location	
SRT	1.1	F-017B7	Difference in margin	
SRT	1.1	F-017B5	Difference in number of calcifications	
SRT	1.1	F-017B2	Difference in opacity	
SRT	1.1	F-017B6	Difference in shape	
SRT	1.1	F-017B1	Difference in size	
SRT	1.1	F-017B4	Difference in spatial proximity	
SRT	1.1	F-017B8	Difference in symmetry	
DCM		111023	Differential Diagnosis/Impression	/
SRT	1.1	F-01770	Diffuse calcification distribution	
DCM		111258	Ductal adenoma	
DCM		111249	Ductal hyperplasia, Usual	
DCM		111139	Ductography	G
SRT	1.1	F-01762	Dystrophic calcification	
SNM3		D4-48014	Ectopic (accessory) breast tissue	
SNM3		M-36300	Edema	
SRT	1.1	F-01763	Eggshell calcification	
DCM		111217	Electrical failure	
DCM		111262	Epidermal inclusion cyst	
SRT	1.1	F-01752	Equal density (isodense) lesion	
DCM		111260	Extra abdomenal desmoid	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
SRT	1.1	F-01714	Extremely dense	
DCM		111224	Failed	
DCM		111024	Failed Analyses	
DCM		111025	Failed Detections	
SRT	1.1	F-01754	Fat containing (radiolucent) lesion	X
SNM3		D7-90434	Fat necrosis of breast	
DCM		111159	Feature detected on images from multiple modalities	
DCM		111158	Feature detected on multiple images	
DCM		111157	Feature detected on only one of the images	
DCM		111156	Feature detected on the only image	
DCM		111264	Fibroadenolipoma	
SNM3		M-90100	Fibroadenoma	
DCM		111263	Fibroadenomatoid hyperplasia	
SNM3		D7-90310	Fibrocystic disease of breast	
SNM3		M-78800	Fibromatosis	
SNM3		M-88103	Fibrosarcoma	
DCM		111072	Finding partially removed	
SRT	1.1	F-0176D	Fine, linear (casting) calcification	
SRT	1.1	F-0176E	Fine, linear, branching (casting) calcification	
DCM		111191	Flash doesn't include cassette/screen/detector identification	/
DCM		111188	Flash doesn't include date of examination	
DCM		111189	Flash doesn't include facility name and location	
DCM		111192	Flash doesn't include mammography unit identification	
DCM		111187	Flash doesn't include patient name and additional patient id	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111190	Flash doesn't include technologist identification	
DCM		111186	Flash is illegible, does not fit, or is lopsided	
DCM		111185	Flash is not near edge of film	
SRT	1.1	F-01792	Focal asymmetric breast tissue	
SRT	1.1	P5-B3410	Focal asymmetric density analysis	
SNM3		M-78266	Focal fibrosis	
DCM		111142	Follow-up at short interval (1-11 months)	F
DCM		111265	Foreign body (reaction)	
DCM		111269	Galactocele	
SNM3		M-90160	Giant fibroadenoma	
SNM3		M-83153	Glycogen-rich carcinoma	
SNM3		M-95800	Granular cell tumor	
DCM		111208	Grid artifact(s)	
SRT	1.1	F-01772	Grouped calcification distribution	
SNM3		D7-90420	Gynecomastia	
SNM3		M-75500	Hamartoma	
SNM3		M-91200	Hemangioma	
DCM		111271	Hemangioma – nonparenchymal, subcutaneous	
SNM3		M-91220	Hemangioma – venous	
SNM3		M-91501	Hemangiopericytoma	
SNM3		M-35060	Hematoma	
SRT	1.1	F-0176F	Heterogeneous calcification	
SRT	1.1	F-01713	Heterogeneously dense	
SRT	1.1	F-01751	High density lesion	
DCM		111149	Highly suggestive of malignancy – take appropriate action	
DCM		111145	Histology using core biopsy	H
SNM3		DC-F1000	Hodgkin's disease (lymphoma)	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111026	Horizontal Imager Pixel Spacing	
DCM		111273	Hyperplasia, usual	
DCM		111174	ID Plate	ID
DCM		111027	Image Laterality	
DCM		111028	Image Library	
DCM		111101	Image Quality	
SRT	1.1	P5-B3408	Image quality analysis	
DCM		111029	Image Quality Rating	
DCM		111030	Image Region	
DCM		111031	Image View	
DCM		111032	Image View Modifier	
SNM3		A-04010	Implant	
SRT	1.1	F-0172B	Implant revised since previous mammogram	
DCM		111033	Impression Description	
DCM		111196	Inadequate compression	
DCM		111219	Inappropriate image processing	
SRT	1.1	F-01726	Increase in number of calcifications	
SRT	1.1	M-02520	Increase in size	
SRT	1.1	F-01744	Indistinct lesion	
DCM		111104	Individual Calcification	
DCM		111233	Individual Impression / Recommendation Analysis	
DCM		111034	Individual Impression/Recommendation	
SNM3		D7-90452	Infarction of breast	
SNM3		M-40000	Inflammation	
SNM3		M-85303	Inflammatory carcinoma	
DCM		111240	Institutionally defined quality control standard	
DCM		111206	Insufficient implant displacement incorrect	
DCM		111315	Intracystic papillary carcinoma	
DCM		111257	Intracystic papilloma	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111314	Intraductal carcinoma micro-papillary	
DCM		111341	Intraductal carcinoma, high grade	
DCM		111313	Intraductal carcinoma, low grade	
DCM		111312	Intraductal comedocarcinoma with necrosis	
SNM3		M-85030	Intraductal papilloma	
BI	3.0	I.D.2	Intra-mammary lymph node	
DCM		111316	Invasive and in-situ carcinoma	
DCM		111342	Invasive cribriform carcinoma	
SNM3		M-85003	Infiltrating duct carcinoma	
DCM		111317	Invasive lobular carcinoma	
SNM3	3.4	G-A402	Irregular	
DCM		111170	J Wire	J
SNM3		M-90300	Juvenile fibroadenoma	
DCM		111277	Juvenille papillomatosis	
DCM		111278	Lactating adenoma	
DCM		111279	Lactational change	
DCM		111281	Large duct papilloma	
SRT	1.1	F-01764	Large rod-like calcification	
SNM3		T-04030	Left breast	
SNM3		M-88900	Leiomyoma	
SNM3		M-88903	Leiomyosarcoma	
DCM		111035	Lesion Density	
SRT	1.1	F-01728	Less defined	
DCM		111318	Leukemic infiltration	
SRT	1.1	F-01771	Linear calcification distribution	
SNM3		M-83143	Lipid-rich (lipid-secreting) carcinoma	
SNM3		M-88500	Lipoma of the breast	
SNM3		M-88503	Liposarcoma	
SNM3	3.4	G-A640	Lobular	
SNM3		D7-F0A02	Lobular carcinoma in situ of breast	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
SRT	1.1	F-01753	Low density (not containing fat) lesion	
SRT	1.0	T-04003	Lower inner quadrant of breast	B
SRT	1.0	T-04005	Lower outer quadrant of breast	D
SRT	1.1	F-01766	Lucent-centered calcification	
DCM		111320	Lympathic vessel invasion	
SNM3		T-C4000	Lymph node	
DCM		111321	Lymphoma	
SNM3		R-102D6	Magnification views	M
DCM		111331	Malignant fibrous histiocytoma	
DCM		111334	Malignant melanoma of nipple	
SNM3		D7-90370	Mammary duct ectasia	
SRT	1.1	F-01791	Mammographic breast mass	
DCM		111036	Mammography CAD Report	CAD
DCM		111238	Mammography Quality Control Manual 1999, ACR	1999,ACR
DCM		111037	Margins	
DCM		111216	Mechanical failure	
SNM3		M-85103	Medullary carcinoma	
SNM3		J-83250	Metal (Lead) Marker	
DCM		111333	Metastasis to an intramammary lymph node	
DCM		111323	Metastatic cancer to the breast	
DCM		111324	Metastatic cancer to the breast from the colon	
DCM		111325	Metastatic cancer to the breast from the lung	
DCM		111327	Metastatic cancer to the breast from the ovary	
DCM		111330	Metastatic disease to axillary node	
DCM		111326	Metastatic melanoma to the breast	
DCM		111328	Metastatic sarcoma to the breast	
DCM		111284	Microglandular adenosis	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
SRT	1.1	F-01742	Microlobulated lesion	
SNM3		G-A109	Middle	
SRT	1.1	F-01765	Milk of calcium calcification	
DCM		111200	MLO Evidence of motion blur	
DCM		111201	MLO Inframammary fold is not open	
DCM		111197	MLO Insufficient pectoral muscle	
DCM		111198	MLO No fat is visualized posterior to fibroglandular tissues	
DCM		111199	MLO Poor separation of deep and superficial breast tissues	
UCUM	1.4	mo	Month	
SRT	1.1	F-01729	More defined	
DCM		111210	Motion blur	
SNM3		M-84803	Mucinous adenocarcinoma (Colloid carcinoma)	
DCM		111329	Multifocal intraductal carcinoma	
DCM		111332	Multifocal invasive ductal carcinoma	
DCM		111285	Multiple Intraductal Papillomas	
DCM		111283	Myofibroblastoma	
DCM		111144	Needle localization and biopsy	L
DCM		111335	Neoplasm of mammary skin	
SNM3		M-95400	Neurofibroma	
DCM		111288	Neurofibromatosis	
SRT	1.1	F-01721	New finding	
SNM3		T-04100	Nipple	
DCM		111297	Nipple Characteristic	
DCM		111205	Nipple not in profile	
SNM3		D7-90554	Nipple retraction	
DCM		111286	No abnormality	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111245	No algorithms succeeded; without findings	
DCM		111213	No image	
SRT	1.1	F-01723	No significant changes in the finding	
SNM3		DC-F0002	Non-Hodgkin's lymphoma	
DCM		111102	Non-lesion	
DCM		111251	Normal axillary node	
DCM		111287	Normal breast tissue	
DCM		111140	Normal interval follow-up	N
SNM3		M-02000	Normal shape	
DCM		111244	Not all algorithms succeeded; with findings	
DCM		111243	Not all algorithms succeeded; without findings	
DCM		111225	Not Attempted	
DCM		111152	Not for Presentation: Rendering device expected not to present	
DCM		111038	Number of calcifications	
DCM		111039	Object type	
SRT	1.1	F-01743	Obscured lesion	
DCM		111322	Occult carcinoma presenting with axillary lymph node metastases	
DCM		111290	Oil cyst (fat necrosis cyst)	
DCM		111138	Old films for comparison	O
DCM		111040	Original Source	
SNM3		M-91803	Osteogenic sarcoma	
DCM		111220	Other failure	
DCM		111175	Other Marker	
DCM		111041	Outline	
DCM		111212	Over exposed	
DCM		111234	Overall Impression / Recommendation Analysis	
SNM3	3.4	M-02120	Ovoid shape (Oval)	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111171	Pacemaker	
DCM		111172	Paddle	
SNM3		M-85403	Paget's disease, mammary (of the nipple)	
SNM3		M-80503	Papillary carcinoma (invasive)	
DCM		111336	Papillary carcinoma in-situ	
SNM3		M-80500	Papilloma	
DCM		111223	Partially Succeeded	
DCM		111042	Pathology	
DCM		111043	Patient Orientation Column	
DCM		111044	Patient Orientation Row	
DCM		111045	Pectoral Muscle Outline	
DCM		111046	Percent Glandular Tissue	
DCM		111299	Peripheral duct papillomas	
SNM3		M-90201	Phyllodes tumor	
SNM3		M-90203	Phyllodes tumor, malignant	
SNM3		M-97313	Plasmacytoma	
SNM3		M-89400	Pleomorphic adenoma	
DCM		111209	Positioning	
DCM		111291	Post reduction mammoplasty	
SNM3		G-A106	Posterior	
DCM		111151	Presentation Optional: Rendering device may present	
DCM		111150	Presentation Required: Rendering device is expected to present	
DCM		111047	Probability of cancer	
DCM		111292	Pseudoangiomatous stromal hyperplasia	
SRT	1.1	F-01767	Punctate calcification	
DCM		111048	Quadrant location	
DCM		111049	Qualitative Difference	
DCM		111050	Quality Assessment	
DCM		111051	Quality Control Standard	
DCM		111052	Quality Finding	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
DCM		111293	Radial scar	
DCM		111053	Recommended Follow-up	
DCM		111054	Recommended Follow-up Date	
DCM		111055	Recommended Follow-up Interval	
DCM		111338	Recurrent malignancy	
SRT	1.1	F-01773	Regional calcification distribution	
SRT	1.1	F-0172A	Removal of implant since previous mammogram	
DCM		111056	Rendering Intent	
SNM3		T-04020	Right breast	
SNM3	3.4	M-02100	Round shape	
SRT	1.1	F-01768	Round shaped calcification	
DCM		111168	Scar tissue	
SRT	1.1	F-01712	Scattered fibroglandular densities	
DCM		111294	Sclerosing adenosis	
DCM		111057	Scope of Feature	
SNM3		M-85023	Secretory (juvenile) carcinoma of the breast	
SRT	1.1	F-01774	Segmental calcification distribution	
DCM		111099	Selected region	
DCM		111058	Selected Region Description	
SNM3		M-36050	Seroma	
SNM3		M-020F9	Shape	
SNM3		M-84903	Signet ring cell carcinoma	
DCM		111296	Silicone granuloma	
DCM		111059	Single Image Finding	1
BI	3.0	I.E.5	Skin lesion	
BI	3.0	I.E.1	Skin retraction	
BI	3.0	I.E.3	Skin thickening	
DCM		111218	Software failure	
SRT	1.1	P5-B3402	Spatial collocation analysis	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
SRT	1.1	P5-B3404	Spatial proximity analysis	
SRT	1.1	F-01745	Spiculated lesion	
SNM3		M-78190	Spindle cell nodule (tumor)	
SNM3		R-102D7	Spot compression	S
DCM		111136	Spot magnification view(s)	V
SNM3		M-80703	Squamous cell carcinoma	
DCM		111340	Squamous cell carcinoma of the nipple	
SNM3		A-13600	Staple	
DCM		111060	Study Date	
DCM		111061	Study Time	
SRT	1.1	F-0178D	Subareolar position	
DCM		111222	Succeeded	
DCM		111062	Successful Analyses	
DCM		111063	Successful Detections	
DCM		111146	Suggestive of malignancy – take appropriate action	T
DCM		111065	Summary of Analyses	
DCM		111064	Summary of Detections	
SNM3		A-13510	Suture material	
DCM		111155	Target content items are related contra-laterally	Target content items
DCM		111154	Target content items are related spatially	Target content items
DCM		111153	Target content items are related temporally	Target content items
DCM		111194	Technical factors missing	
SRT	1.1	P5-B3406	Temporal correlation	
SNM3		D3-87780	Thrombophlebitis of breast (Mondor's disease)	
DCM		111239	Title 21 CFR Section 900, Subpart B	
BI	3.0	I.E.4	Trabecular thickening	
SNM3		M-82113	Tubular adenocarcinoma	
SNM3		M-82110	Tubular adenoma	

Coding Scheme Designator	Coding Scheme Version	Code Value	Code Meaning English Language	Code Meaning Japanese Language
BI	3.0	I.D.1	Tubular density	
DCM		111137	Ultrasound	U
DCM		111211	Under exposed	
DCM		111221	Unknown failure	
DCM		111176	Unspecified	
DCM		111235	Unusable— Quality renders image unusable	
SRT	1.0	T-04002	Upper inner quadrant of breast	A
SRT	1.0	T-04004	Upper outer quadrant of breast	C
DCM		111236	Usable— Does not meet the quality control standard	
DCM		111237	Usable— Meets the quality control standard	
SRT	1.1	F-0176B	Vascular calcification	
DCM		111066	Vertical Imager Pixel Spacing	
DCM		111179	View and Laterality Marker does not have approved codes	FDA
DCM		111178	View and Laterality Marker does not have both view and laterality	
DCM		111183	View and Laterality Marker is incorrect	
DCM		111177	View and Laterality Marker is missing	
DCM		111180	View and Laterality Marker is not near the axilla	
DCM		111184	View and Laterality Marker is off image	
DCM		111182	View and Laterality Marker is partially obscured	
DCM		111181	View and Laterality Marker overlaps breast tissue	
DCM		111298	Virginal hyperplasia	
UCUM	1.4	wk	Week	
UCUM	1.4	a	Year	