4

8

12

Digital Imaging and Communications in Medicine (DICOM)

Supplement 78: Pediatric, Fetal and Congenital Cardiac Ultrasound Reports

16

20

DICOM Standards Committee, Working Group 12, Ultrasound

24 1300 N. 17th Street, Suite 1752

Rosslyn, Virginia 22209 USA

VERSION: Final Text (March 17, 2010)

28 Developed pursuant to DICOM Work Item 2007-11-B.

Table of Contents

84

88

92

96

100

104

108

Scope and Field of Application

112   This supplement introduces the structure and codes used to transfer cardiac ultrasound measurements and assessments focused on Pediatric, Fetal, and Adult congenital echo procedures. The goal of the supplement is to establish a set of base encodings for fetal and pediatric echo studies to be used in the transfer of measurements and calculations from ultrasound machines for subsequent review.

The templates of this supplement do not replace the use of Template 5200 for routine Adult Echocardiography.

116   This supplement does not address physician reports.

120

124

Changes to NEMA Standards Publication PS 3.6-2009

128 **Digital Imaging and Communications in Medicine (DICOM)**

Part 6: Data Structures and Encoding

> *Add new rows to PS 3.6 Annex A Table A-3*

Annex A   Structured Reporting Templates (Normative)

132

Table A-3
CONTEXT GROUP UID VALUES

Context UID	Context Identifier	Context Group Name
...		
1.2.840.10008.6.1.826	12245	Cardiac Ultrasound Report Titles
1.2.840.10008.6.1.827	12246	Cardiac Ultrasound Indication for Study
1.2.840.10008.6.1.828	12247	Pediatric, Fetal and Congenital Cardiac Surgical Interventions
1.2.840.10008.6.1.829	12248	Cardiac Ultrasound Summary Codes
1.2.840.10008.6.1.830	12249	Cardiac Ultrasound Fetal Summary Codes
1.2.840.10008.6.1.831	12250	Cardiac Ultrasound Common Linear Measurements
1.2.840.10008.6.1.832	12251	Cardiac Ultrasound Linear Valve Measurements
1.2.840.10008.6.1.833	12252	Cardiac Ultrasound Cardiac Function
1.2.840.10008.6.1.834	12253	Cardiac Ultrasound Area Measurements
1.2.840.10008.6.1.835	12254	Cardiac Ultrasound Hemodynamic Measurements
1.2.840.10008.6.1.836	12255	Cardiac Ultrasound Myocardium Measurements
1.2.840.10008.6.1.838	12257	Cardiac Ultrasound Left Ventricle
1.2.840.10008.6.1.839	12258	Cardiac Ultrasound Right Ventricle
1.2.840.10008.6.1.840	12259	Cardiac Ultrasound Ventricles Measurements
1.2.840.10008.6.1.841	12260	Cardiac Ultrasound Pulmonary Artery
1.2.840.10008.6.1.842	12261	Cardiac Ultrasound Pulmonary Vein
1.2.840.10008.6.1.843	12262	Cardiac Ultrasound Pulmonary Valve
1.2.840.10008.6.1.844	12263	Cardiac Ultrasound Venous Return Pulmonary Measurements
1.2.840.10008.6.1.845	12264	Cardiac Ultrasound Venous Return Systemic Measurements
1.2.840.10008.6.1.846	12265	Cardiac Ultrasound Atria and Atrial Septum Measurements
1.2.840.10008.6.1.847	12266	Cardiac Ultrasound Mitral Valve
1.2.840.10008.6.1.848	12267	Cardiac Ultrasound Tricuspid Valve
1.2.840.10008.6.1.849	12268	Cardiac Ultrasound Atrioventricular Valves Measurements
1.2.840.10008.6.1.850	12269	Cardiac Ultrasound Interventricular Septum

		Measurements
1.2.840.10008.6.1.851	12270	Cardiac Ultrasound Aortic Valve
1.2.840.10008.6.1.852	12271	Cardiac Ultrasound Outflow Tracts Measurements
1.2.840.10008.6.1.853	12272	Cardiac Ultrasound Semilunar Valves, Annulus and Sinuses Measurements
1.2.840.10008.6.1.854	12273	Cardiac Ultrasound Aortic Sinotubular Junction
1.2.840.10008.6.1.855	12274	Cardiac Ultrasound Aorta Measurements
1.2.840.10008.6.1.856	12275	Cardiac Ultrasound Coronary Arteries Measurements
1.2.840.10008.6.1.857	12276	Cardiac Ultrasound Aorto Pulmonary Connections Measurements
1.2.840.10008.6.1.858	12277	Cardiac Ultrasound Pericardium and Pleura Measurements
1.2.840.10008.6.1.859	12279	Cardiac Ultrasound Fetal General Measurements
1.2.840.10008.6.1.860	12280	Cardiac Ultrasound Target Sites
1.2.840.10008.6.1.861	12281	Cardiac Ultrasound Target Site Modifiers
1.2.840.10008.6.1.862	12282	Cardiac Ultrasound Venous Return Systemic Finding Sites
1.2.840.10008.6.1.863	12283	Cardiac Ultrasound Venous Return Pulmonary Finding Sites
1.2.840.10008.6.1.864	12284	Cardiac Ultrasound Atria and Atrial Septum Finding Sites
1.2.840.10008.6.1.865	12285	Cardiac Ultrasound Atrioventricular Valves Findiing Sites
1.2.840.10008.6.1.866	12286	Cardiac Ultrasound Interventricular Septum Finding Sites
1.2.840.10008.6.1.867	12287	Cardiac Ultrasound Ventricles Finding Sites
1.2.840.10008.6.1.868	12288	Cardiac Ultrasound Outflow Tracts Finding Sites
1.2.840.10008.6.1.869	12289	Cardiac Ultrasound Semilunar Valves, Annulus and Sinuses Finding Sites
1.2.840.10008.6.1.870	12290	Cardiac Ultrasound Pulmonary Arteries Finding Sites
1.2.840.10008.6.1.871	12291	Cardiac Ultrasound Aorta Finding Sites
1.2.840.10008.6.1.872	12292	Cardiac Ultrasound Coronary Arteries Finding Sites
1.2.840.10008.6.1.873	12293	Cardiac Ultrasound Aorto Pulmonary Connections Finding Sites
1.2.840.10008.6.1.874	12294	Cardiac Ultrasound Pericardium and Pleura Finding Sites

136

140

144

Changes to NEMA Standards Publication PS 3.16-2009

Digital Imaging and Communications in Medicine (DICOM)

Part 16: Content Mapping Resource

Add normative reference to Section 2 'Normative References':

148 **Quantitation of the Left Ventricle**

Recommendations for Quantitation of the Left Ventricle by Two-Dimensional Cardiac Ultrasound, Journal of the American Society of Cardiac Ultrasound, Vol 2, No 5 358-367, Oct 1989.

152 | *Add the following new Templates to Annex A 'DCMR Templates (Normative)':* |
| :--- |

TID 5220 Pediatric, Fetal and Congenital Cardiac Ultrasound Reports

This template forms the top of a content tree that allows an ultrasound application to describe the results of a Cardiac Ultrasound imaging procedure. It is instantiated at the root node.

156
<div align="center">

TID 5220
Pediatric, Fetal and Congenital Cardiac Ultrasound Reports
Type: Extensible

</div>

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	DCID (12245) Cardiac Ultrasound Report Titles	1	M		.
2	>	HAS CONCEPT MOD	INCLUDE	DTID (1204) Language of Content Item and Descendants	1	M		
3	>	HAS OBS CONTEXT	INCLUDE	DTID (1001) Observation Context	1	M		
4	>	CONTAINS	CONTAINER	EV (121109, DCM, "Indications for Procedure")	1	U		
5	>>	CONTAINS	CODE	EV (121071, DCM, "Finding")	1-n	U		DCID (12246) Cardiac Ultrasound Indication for Study
6	>>	CONTAINS	TEXT	EV (121071, DCM, "Finding")	1	U		
7	>	CONTAINS	INCLUDE	DTID (3802) Cardiovascular Patient History	1	U		
8	>	CONTAINS	INCLUDE	DTID (3602) Cardiovascular Patient Characteristics	1	U		
9	>	CONTAINS	INCLUDE	DTID (5225) Cardiac Ultrasound Fetal Characteristics	1-n	U		No more than one inclusion per fetus
10	>	CONTAINS	INCLUDE	DTID (5226) Cardiac Ultrasound Summary Section	1	U		

11	>	CONTAINS	INCLUDE	DTID (5227) Cardiac Ultrasound Fetal Summary Section	1-n	U		No more than one inclusion per fetus
12	>	CONTAINS	CONTAINER	(111028, DCM, "Image Library")	1	U		
13	>>	CONTAINS	IMAGE	No purpose of reference	1-n	M		
14	>	CONTAINS	INCLUDE	DTID (5221) Cardiac Ultrasound Pediatric Measurement Section	1	U		
15	>	CONTAINS	INCLUDE	TID (5228) Cardiac Ultrasound Fetal Measurement Section	1-n	UC	For Fetal Report only.	No more than one inclusion per fetus

160   **Content Item Descriptions**

Row 3	For Fetal Report, this row establishes the subject context of the mother.
Row 7	For Fetal Report, this row will be the patient history of the mother.
Row 8	For Fetal Report, this row will be the Patient Characteristics for the mother.
Row 10	For Fetal Report, this row will be the Summary Section for the mother.

TID 5221 Cardiac Ultrasound Pediatric Echo Measurement Section

164

TID 5221
Cardiac Ultrasound Pediatric Echo Measurement Section
Type: Extensible

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12282) Cardiac Ultrasound Venous Return Systemic Finding Sites $MeasType = DCID (12264) Cardiac Ultrasound Venous Return Systemic Measurements
2			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12283) Cardiac Ultrasound Venous Return Pulmonary Finding Sites $MeasType = DCID (12263) Cardiac Ultrasound Venous Return Pulmonary Measurements

3			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12284) Cardiac Ultrasound Atria and Atrial Septum Finding Sites $MeasType = DCID (12265) Cardiac Ultrasound Atria and Atrial Septum Measurements
4			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12285) Cardiac Ultrasound Atrioventricular Valves Finding Sites $MeasType = DCID (12268) Cardiac Ultrasound Atrioventricular Valves Measurements
5			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12286) Cardiac Ultrasound Interventricular Septum Finding Sites $MeasType = DCID (12269) Cardiac Ultrasound Interventricular Septum Measurements
6			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12287) Cardiac Ultrasound Ventricles Finding Sites $MeasType = DCID (12259) Cardiac Ultrasound Ventricles Measurements
8			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12288) Cardiac Ultrasound Outflow Tracts Finding Sites $MeasType = DCID (12271) Cardiac Ultrasound Outflow Tracts Measurements
9			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12289) Cardiac Ultrasound Semilunar Valves, Annulus and Sinuses Finding Sites $MeasType = DCID (12272) Cardiac Ultrasound Semilunar Valves, Annulus and Sinuses Measurements
10			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12290) Cardiac Ultrasound Pulmonary Arteries Finding Sites $MeasType = DCID (12260) Cardiac Ultrasound Pulmonary Artery
11			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12291) Cardiac Ultrasound Aorta Finding Sites $MeasType = DCID (12274) Cardiac Ultrasound Aorta Measurements

12			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12292) Cardiac Ultrasound Coronary Arteries Finding Sites $MeasType = DCID (12275) Cardiac Ultrasound Coronary Arteries Measurements
13			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12293) Cardiac Ultrasound Aorto Pulmonary Connections Finding Sites $MeasType = DCID (12276) Cardiac Ultrasound Aorto Pulmonary Connections Measurements
14			INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject=DCID (12294) Cardiac Ultrasound Pericardium and Pleura Finding Sites $MeasType = DCID (12277) Cardiac Ultrasound Pericardium and Pleura Measurements

168 **TID 5222 Pediatric, Fetal and Congenital Cardiac Ultrasound Section**

This is a generic section heading Template for any of the anatomical headings. Measurements within a section heading appear as groups (by image mode or acquisition protocol).

Parameter Name	Parameter Usage
$SectionSubject	The subject modifier of the section heading container
$MeasType	The concept name of the measurement

172

TID 5222
Pediatric, Fetal and Congenital Cardiac Ultrasound Section
Type: Extensible

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (121070, DCM, "Findings")	1	M		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT, "Finding Site")	1	M		$SectionSubject
3	>>	HAS CONCEPT MOD	CODE	EV (P1-32006, SRT, "Heart valve replacement - prosthesis")	1	U		DCID (230) Yes-No
4	>	CONTAINS	CONTAINER	DT (125007, DCM, "Measurement Group")	1-n	M		
5	>>	HAS CONCEPT MOD	CODE	EV (G-0373, SRT, "Image Mode")	1	U		BCID (12224) Ultrasound Image Modes

| 6 | >> | HAS CONCEPT MOD | TEXT | DT (125203, DCM, "Acquisition Protocol") | 1 | U | | |
| 7 | >> | CONTAINS | INCLUDE | DTID (5223) Pediatric, Fetal and Congenital Cardiac Ultrasound Measurement | 1-n | M | | $Measurement = $MeasType

$Method=CID (12227) Echocardiography Measurement Method |

176 **TID 5223 Pediatric, Fetal and Congenital Cardiac Ultrasound Measurement**

This Template provides for the post-coordination of a measurement with a variety of concept modifiers and acquisition context observations. When invoked from TID 5222, the measurement concept is implicitly post-coordinated with the concept modifiers of the Measurement Group (TID 5222 Rows 5 and
180 6), and with the Finding Site of the report section (TID 5222 Row 2). The finding site may be further specified within this Template by the Target Site and Target Site Modifiers (CID 12280 and CID 12281).

The implicit finding site inherited from TID 5222 can be made explicit by using the same finding site concept in the Target Site (the measurement concept modifier), rather than a term from CID 12280. This
184 explicit post-coordination allows the use of one of the modifiers of CID 12281 to that finding site, as the Target Site Modifier requires an explicit Target Site in the measurement structure (TID 300 Rows 5 and 7). In fact, any child concept of the finding site in the SNOMED hierarchy may be used as the measurement Target Site.

188 The finding or target site may be identified by a concept from the SNOMED "clinical finding" or "morphological anomaly" hierarchies (e.g., D4-31220 "Atrial Septal Defect", or M-36700 "Effusion"), rather than the "anatomical structure" hierarchy. In this case, the meaning is inferred as "the anatomic location of the clinical finding or morphological anomaly, within the constraints of other implicit or explicit post-
192 coordinated finding site concepts."

Note: Thus when TID 5221 Row 14 invokes TID 5222 with the section finding site concept (T-39000, SRT, "Pericardium"), and TID 5223 Row 1 applies the target site (M-36700, SRT, "Effusion"), the effective finding site is "pericardial effusion".

196

Parameter Name	Parameter Usage
$Measurement	Coded term or Context Group for Concept Name of measurement
$Method	Value for Measurement Method

TID 5223
Pediatric, Fetal and Congenital Cardiac Ultrasound Measurement
Type: Extensible

200

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			INCLUDE	DTID (300) Measurement	1	M		$Measurement = $Measurement $Method = $Method $TargetSite = BCID (12280) Cardiac Ultrasound Target Sites $TargetSiteMod = BCID (12281) Cardiac Ultrasound Target Site Modifiers $Derivation=DCID (3838) Diameter Derivation
2	>	HAS CONCEPT MOD	CODE	EV (121425, DCM, "Index")	1	U		DCID (3455) Index Methods
3	>	HAS CONCEPT MOD	CODE	EV (G-C048, SRT, "Flow Direction")	1	U		BCID (12221) Flow Direction
4	>	HAS CONCEPT MOD	CODE	EV (R-40899, SRT, "Respiratory Cycle Point")	1	U		DCID (12234) Respiration State
5	>	HAS CONCEPT MOD	CODE	EV (R-4089A, SRT, "Cardiac Cycle Point")	1	U		DCID (12233) Cardiac Phase
6	>	HAS ACQ CONTEXT	CODE	EV (G-0373, SRT, "Image Mode")	1	U		DCID (12224) Ultrasound Image Modes
7	>	HAS ACQ CONTEXT	CODE	EV (111031, DCM, "Image View")	1	U		BCID (12226) Echocardiography Image View

Content Item Descriptions

Row 1	For an index type of measurement, the concept name of this row 1 will still be the original measurement concept name; it is row 2 that gives the indication that row 1 is actually an index type of measurement. When this happens, the measurement value of row 1 should be a value after being indexed and the measurement unit of row 1 should be an index type of unit.
	For example, to insert a "Stroke Volume Index" measurement to this SR object, the concept name of row 1 will be "Stroke Volume", its numerical value will be the calculation result of "Stroke Volume /BSA" and its units are "ml/cm^2".
Row 2	When this row is available, the row 1 is an index calculation of the object.

204 **TID 5225 Cardiac Ultrasound Fetal Characteristics**

Contains a list of Fetus Specific characteristics.

TID 5225
Cardiac Ultrasound Fetal Characteristics
Type: Extensible

208

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (125015, DCM, "Fetus Characteristics")	1	M		
2	>	HAS OBS CONTEXT	INCLUDE	DTID (1008) Subject Context, Fetus	1	MC	IF this template is invoked more than once to describe more than one fetus.	
3	>	CONTAINS	NUM	EV (18185-9, LN, "Gestational Age")	1	U		Units = DCID (7456) Units of Measure for Age
4	>	CONTAINS	DATE	EV (11778-8, LN, "EDD")	1	U		
5	>	CONTAINS	NUM	EV (8867-4, LN, "Heart Rate")	1	U		

TID 5226 Cardiac Ultrasound Summary Section

Comments and observations of the procedure of immediate clinical interest.

212

TID 5226
Cardiac Ultrasound Summary Section
Type: Extensible

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (121111, DCM, "Summary")	1	M		
2	>	CONTAINS	CODE	EV (121071, DCM, "Finding")	1-n	MC	IF row 3 does not exist	BCID(12248) Cardiac Ultrasound Summary Codes
3	>	CONTAINS	TEXT	EV (121071, DCM, "Finding")	1-n	MC	IF row 2 does not exist	
4	>	CONTAINS	CODE	EV (P0-009C3, SRT "Surgical Procedure")	1-n	U		BCID (12247) Pediatric, Fetal and Congenital Cardiac Surgical Interventions

216 **TID 5227 Cardiac Ultrasound Fetal Summary Section**

Comments and observations of the procedure of immediate clinical interest.

TID 5227
Cardiac Ultrasound FetalSummary Section
Type: Extensible

220

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	DT (125008, DCM, "Fetus Summary")	1	M		

2	>	HAS OBS CONTEXT	INCLUDE	DTID (1008) Subject Context, Fetus	1	MC	IF this template is invoked more than once to describe more than one fetus	
3	>	CONTAINS	CODE	EV (121071, DCM, "Finding")	1-n	MC	IF row 4 does not exist	BCID(12249) Cardiac Ultrasound Fetal Summary Codes
4	>	CONTAINS	TEXT	EV (121071, DCM, "Finding")	1-n	MC	IF row 3 does not exist	
5	>	CONTAINS	CODE	EV (P0-009C3, SRT "Surgical Procedure")	1-n	U		BCID (12247) Pediatric, Fetal and Congenital Cardiac Surgical Interventions

TID 5228 Cardiac Ultrasound Fetal Measurement Section

TID 5228
Cardiac Ultrasound Fetal Measurement Section
Type: Extensible

224

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (125016, DCM, "Fetal Measurements")	1	M		
2	>	HAS OBS CONTEXT	INCLUDE	DTID (1008) Subject Context, Fetus	1	MC	IF this template is invoked more than once to describe more than one fetus.	
3	>	CONTAINS	INCLUDE	DTID (300) Measurement	1-n	U		$Measurement = DCID (12279) Cardiac Ultrasound Fetal General Measurements
4	>	CONTAINS	INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject = EV (T-F6845, LN, "Ductus arteriosus") $MeasType = DCID (12218) Echocardiography Congenital
5	>	CONTAINS	INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject = EV (T-F6806, LN, "Ductus venosus") $MeasType = DCID (12218) Echocardiography Congenital
6	>	CONTAINS	INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject = EV (T-F1810, LN, "Umbilical artery") $MeasType = DCID (12218) Echocardiography Congenital
7	>	CONTAINS	INCLUDE	DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section	1-n	U		$SectionSubject = EV (T-D03B4, LN, "Umbilical vein") $MeasType = DCID (12218) Echocardiography Congenital

| 8 | > | CONTAINS | INCLUDE | DTID (5222) Pediatric, Fetal and Congenital Cardiac Ultrasound Section | 1-n | U | | $SectionSubject = EV (T-45600, LN, "Middle cerebral artery")

$MeasType = DCID (12218) Echocardiography Congenital |

Make changes to the following Context Groups

228

CONTEXT GROUP 3663 – Body Surface Area Equations

CID 3663
Body Surface Area Equations

232   **Type: Extensible   Version: ~~20030327~~20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	122240	BSA = 0.003207*WT^(0.7285-0.0188 log (WT))*HT^0.3
DCM	122241	BSA = 0.007184*WT^0.425*HT^0.725
DCM	122242	BSA = 0.0235*WT^0.51456*HTcm^0.42246
DCM	122243	BSA = 0.024265*WT^0.5378*HTcm^0.3964
DCM	122244	BSA = (HT * WT/36)^0.5
DCM	**122246**	**BSA = 0.0004688*WT^(0.8168-0.0154*log(WT))**

CONTEXT GROUP 3756   Cardiac Patient Risk Factors

Context ID 3756
236   **Cardiac Patient Risk Factors**

Type: Extensible   Version: ~~20070827~~20100317

Coding Scheme Designator	Code Value	Code Meaning	NCDR 2.0b Equivalent Code Value
SRT	G-026D	History of congestive heart failure	30
SRT	G-023F	History of diabetes	31
SRT	R-102B6	History of renal failure	32
SRT	R-102B7	History of chronic lung disease	33
SRT	G-0102	History of cerebrovascular disease	34
SRT	D3-8005B	Peripheral vascular disease	35
SRT	G-03AA	History of myocardial infarction	36
SRT	G-0269	History of hypertension	37
SRT	R-102B8	History of hypercholesterolemia	39
SRT	D3-30000	Arrhythmia	
SRT	**F-0331B**	**HIV Positive**	
SRT	**D8-60001**	**Infant of Gestational Diabetic Mother (IGDM)**	
SRT	**G-0586**	**Insulin dependent mother (IDM)**	

Note: In prior editions, this Context Group included the NCDR 2.0b codes as the primary set. These have been
240 replaced with equivalent SNOMED codes.

CONTEXT GROUP 12218 – Echocardiography Congenital

CID 12218 Echocardiography Congenital

244 **Type: Extensible**   **Version: ~~20030918~~20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		

CONTEXT GROUP 12221 – Flow Direction

CID 12221
248 **Flow Direction**

Type: Extensible   **Version: ~~20030918~~20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	R-42047	Antegrade Flow
SRT	R-42E61	~~Regurgitant Flow~~ **Retrograde Flow**
SRT	**G-0367**	**Regurgitant Flow**
SRT	**F-32330**	**Left to right cardiovascular shunt**
SRT	**F-32340**	**Right to left cardiovascular shunt**

252 **Note: In a prior version of this Context Group, the code R-42E61 was specified for Regurgitant Flow. This has been corrected to be Retrograde Flow. Some applications might continue to send code R-42E61 instead of G-0367 for Regurgitant Flow.**

256 **CONTEXT GROUP 12222 – Orifice Flow Properties**

CID 12222
Orifice Flow Properties

Type: Extensible   **Version: ~~20030918~~20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
LN	33878-0	Volume Flow

LN	34141-2	Peak Instantaneous Flow Rate
SRT	G-038E	Cardiovascular Orifice Area
SRT	G-038F	Cardiovascular Orifice Diameter
SRT	G-0390	Regurgitant Fraction
LN	11653-3	End Diastolic Velocity
LN	11726-7	Peak Systolic Velocity
LN	20351-3	Peak Velocity
LN	20352-1	Time Averaged Mean Velocity
LN	11692-1	Time Averaged Peak Velocity
LN	20247-3	Peak Gradient
LN	20256-4	Mean Gradient
LN	20354-7	Velocity Time Integral
LN	20280-4	Pressure Half-Time
LN	20168-1	Acceleration Time
LN	20217-6	Deceleration Time
LN	20216-8	Deceleration Slope
LN	**12144-2**	**Systolic to Diastolic Velocity Ratio**
LN	**59102-4**	**Flow Radius**
LN	**59130-5**	**Alias velocity**
LN	**20167-3**	**Acceleration Slope**
LN	**59127-1**	**D-E Slope**
LN	**59128-9**	**E-F Slope**
LN	**59103-2**	**A-C Interval**
LN	**59104-0**	**Peak E wave/Peak A wave by US**
LN	**59106-5**	**Stenosis Peak Gradient**
LN	**59107-3**	**Stenosis Peak Velocity**
LN	**59079-4**	**Peak Reversal Velocity during Atrial Contraction**
LN	**59080-2**	**E-Wave Peak Velocity**
LN	**59081-0**	**A-Wave Peak Velocity**
LN	**59111-5**	**E Velocity to Annulus E Velocity Ratio**
LN	**59115-6**	**Velocity of Flow Propagation**

260

Notes: **1. In a prior version of this Context Group, the code 11726-7 was specified for Peak Velocity. This has been corrected to be Peak Systolic Velocity. Some applications might continue to send code 11726-7 instead of 20351-3 for Peak Velocity.**

264 **2. In a prior version of this Context Group, the code 20352-1 was specified for Mean Velocity. This has been corrected to be Time Averaged Mean Velocity. Some applications might continue to send code 20352-1 instead of 11692-1 for Time Averaged Peak Velocity.**

268   **CONTEXT GROUP 12224 – Ultrasound Image Modes**

CID 12224
Ultrasound Image Modes

Type: Extensible   Version: ~~20060622~~20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	G-03A2	2D mode
SRT	R-409E2	Doppler Color Flow
SRT	G-0394	M mode
SRT	R-409E4	Doppler Pulsed
SRT	R-409E3	Doppler Continuous Wave
SRT	P0-02241	Power Doppler
SRT	P0-02242	3D mode
SRT	**P5-B0128**	**Tissue Doppler Imaging**

272

CONTEXT GROUP 12226 – Echocardiography Image View

CID 12226
Echocardiography Image View

276   **Type: Extensible   Version: ~~20030918~~20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	G-A19B	Apical two chamber
SRT	G-A19C	Apical four chamber
SRT	G-0395	Apical long axis
SRT	G-0396	Parasternal long axis
SRT	**G-0577**	**Parasternal long axis view of the RV inflow tract**
SRT	**G-0578**	**Parasternal long axis view of the RV outflow tract**
SRT	G-0397	Parasternal short axis
SRT	G-0398	Parasternal short axis at the aortic valve level
SRT	G-0399	Parasternal short axis at the level of the mitral chords
SRT	G-039A	Parasternal short axis at the Mitral Valve level
SRT	G-039B	Parasternal short axis at the Papillary Muscle level
SRT	G-039C	Right Ventricular Inflow Tract View
SRT	G-039D	Right Ventricular Outflow Tract View

SRT	G-039E	Subcostal long axis
SRT	G-039F	Subcostal short axis
SRT	G-03A0	Suprasternal long axis
SRT	G-03A1	Suprasternal short axis
SRT	**R-40B0E**	**Transesophageal short axis view**
SRT	**R-40AFF**	**Subcostal view of cardiac outlets directed anteriorly**
SRT	**G-0579**	**Subcostal short axis view at papillary muscle level**
SRT	**G-057B**	**Subcostal short axis view at mitral valve level**
SRT	**G-057E**	**Subcostal short axis view at aortic valve level**
SRT	**G-057C**	**Subcostal short axis view at venous inflow level**
SRT	**R-40B0A**	**Subcostal oblique coronal view**
SRT	**R-40B00**	**Suprasternal coronal view**
SRT	**R-40B01**	**Suprasternal sagittal view**
SRT	**G-057D**	**Suprasternal long axis view of aortic arch**

CONTEXT GROUP 12228 – Echocardiography Volume Methods

CID 12228
Echocardiography Volume Methods

Type: Extensible   Version: ~~20030918~~20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	125204	Area-Length Biplane
DCM	125205	Area-Length Single Plane
DCM	125211	Biplane Ellipse
DCM	125226	Single Plane Ellipse
DCM	125206	Cube Method
DCM	125207	Method of Disks, Biplane
DCM	125208	Method of Disks, Single Plane
DCM	125209	Teichholz
DCM	**125227**	**Modified Simpson**
DCM	**125228**	**Bullet Method**

280

CONTEXT GROUP 12232 – Myocardium Mass Methods

284

CID 12232
Myocardium Mass Methods

Type: Extensible   Version: ~~20050321~~20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	125221	Left Ventricle Mass by M-mode
DCM	125222	Left Ventricle Mass by Truncated Ellipse
DCM	**125270**	**Left Ventricle Mass by Area Length**
DCM	**125271**	**Left Ventricle Mass by M-mode – adjusted by Height**
DCM	**125272**	**Left Ventricle Mass by Truncated Ellipse – adjusted by Height**
DCM	**125273**	**Left Ventricle Mass by Area Length – adjusted by Height**

288   **CONTEXT GROUP 12233 – Cardiac Phase**

CID 12233
Cardiac Phase

Type: Extensible   Version: ~~20030918~~20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	F-32020	Systole
SRT	F-32010	Diastole
SRT	F-32011	End Diastole
~~DCM~~ **SRT**	~~109070~~ **R-FAB5B**	End Systole
SRT	**R-40B1B**	**Early Diastole**
SRT	**F-32021**	**Peak Systolic**
SRT	**F-32030**	**Atrial Systole**
SRT	**F-32040**	**Ventricular Systole**
SRT	**R-40B12**	**Ventricular Isovolumic Contraction**
SRT	**R-40B11**	**Ventricular Ejection**
SRT	**R-40B10**	**Ventricular Isovolumic Relaxation**
SRT	**R-40B1C**	**Diastolic Rapid Inflow**
SRT	**R-40B21**	**Diastasis**

292

| Add the following new context groups |

CONTEXT GROUP 12245 – Cardiac Ultrasound Report Titles

296

CID 12245
Cardiac Ultrasound Report Titles

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	125195	Pediatric Cardiac Ultrasound Report
DCM	125196	Fetal Cardiac Ultrasound Report
DCM	125197	Adult Congenital Cardiac Ultrasound Report

300 **CONTEXT GROUP 12246 – Cardiac Ultrasound Indication for Study**

CID 12246
Cardiac Ultrasound Indication for Study

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	F-0A44A	Fever
SRT	F-24210	Hemoptysis
SRT	R-00302	Murmur
SRT	D4-31000	Congenital heart disease
SRT	F-37000	Chest Pain
SRT	D3-13040	Coronary Artery Disease
SRT	F-03C97	Heart disease risk factors
SRT	F-201B3	Dyspnea
SRT	F-38002	Abnormal ECG
SRT	D3-30000	Arrhythmia
SRT	D3-13012	Angina pectoris
SRT	D3-02000	Hypertension
SRT	F-37150	Palpitations
SRT	D3-31290	Supraventricular tachycardia
SRT	D3-00006	Syncope
SRT	D3-33120	Left bundle branch block
SRT	D3-10800	Valvular heart disease
SRT	P0-05DA0	Imaging guidance

304

CONTEXT GROUP 12247 – Pediatric, Fetal and Congenital Cardiac Surgical Interventions

CID 12247

Pediatric, Fetal and Congenital Cardiac Surgical Interventions

308   **Type: Extensible   Version: 20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	P1-31919	Arterial switch operation
SRT	P1-31018	Implantation of baffle, atrial or interatrial
SRT	P1-31872	Atrial septal defect repair
SRT	P1-31846	Percutaneous prosthetic closure of atrial septal defect
SRT	P1-31037	Repair of defect of the atrioventricular septum
SRT	P1-36957	Blalock-Taussig shunt, pulmonary-subclavian artery anastomosis
SRT	P1-36956	Central aortopulmonary shunt operation
SRT	P1-34001	Repair of coarctation of aorta
SRT	P5-39106	Coarctation of the Aorta Balloon Angioplasty
SRT	P0-06135	Coarctation of the Aorta Angioplasty with Implant of Stent
SRT	P1-31088	Damus-Stansel-Kaye operation
SRT	P1-31926	Creation of conduit of right atrium and pulmonary artery
SRT	P1-36993	Lateral-Caval Fontan procedure
SRT	P1-3696A	Hemi-Fontan operation
SRT	P1-36997	Left Glenn shunt procedure
SRT	P1-36994	Left-sided bidirectional Glenn shunt procedure
SRT	P1-31917	Mustard operation
SRT	P1-31089	Norwood type operation
SRT	P0-057E8	Closure of ductus arteriosus with clip
SRT	P0-00E0B	Patent ductus arteriosus coil or device closure
SRT	P1-38803	Partial anomalous pulmonary venous connection operation
SRT	P1-31920	Rastelli operation
SRT	P1-36995	Right Glenn shunt procedure
SRT	P1-36996	Right-sided bidirectional Glenn shunt procedure
SRT	P0-00C6B	Construction of LV to aorta tunnel w RV to PA valved conduit
SRT	P1-30A31	Radical aortopulmonary reconstruct w RV to PA valveless conduit
SRT	P1-3180D	Sano procedure
SRT	P1-31003	Atrial inversion operation using atrial wall
SRT	P0-0530F	Repair of total anomalous pulmonary venous connection
SRT	P1-32504	Implantation of heart valve prosthesis or synthetic device

SRT	P1-32502	Implantation of heart valve with tissue graft
SRT	P1-31876	Correction of ventricular septal defect
SRT	P1-31850	Ventricular septal defect device closure

CONTEXT GROUP 12248 – Cardiac Ultrasound Summary Codes

CID 12248
312   **Cardiac Ultrasound Summary Codes**

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	D4-31810	Congenital stenosis of aortic valve
SRT	D4-31220	Atrial Septal Defect
SRT	D3-29022	Aortic regurgitation
SRT	D3-29021	Aortic stenosis
SRT	D3-10008	Cardiomegaly
SRT	D4-32014	Coarctation of the Aorta
SRT	D4-31303	Common atrioventricular canal
SRT	D4-31010	Complete transposition of great vessels
SRT	M-04100	Cyanosis
SRT	D4-31B16	Dextrocardia
SRT	D3-83001	Interrupted Aortic Arch
SRT	D4-31B24	Mesocardia
SRT	D3-81660	Acute febrile mucocutaneous lymph node syndrome
SRT	D3-29013	Mitral valve prolapse
SRT	D3-29012	Mitral regurgitation
SRT	D3-29011	Mitral stenosis
SRT	D4-33622	Partial anomalous pulmonary venous connection
SRT	D4-31310	Atrial septal defect with endocardial cushion defect, partial type
SRT	D3-29051	Pulmonic valve stenosis
SRT	D3-17100	Rheumatic Fever
SRT	D4-31110	Tetralogy of Fallot
SRT	D4-31159	Ventricular Septal Defect (VSD)
SRT	D4-31040	Corrected transposition of great vessels
SRT	D3-29082	Pulmonary atresia with intact ventricular septum
SRT	D4-31611	Pulmonary atresia with ventricular septal defect
SRT	D4-31A00	Hypoplastic left heart syndrome
SRT	D4-31125	Functional Single Ventricle

CONTEXT GROUP 12249 – Cardiac Ultrasound Fetal Summary Codes

316

CID 12249
Cardiac Ultrasound Fetal Summary Codes

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
Include CID 12248 Cardiac Ultrasound Summary Codes		
SRT	F-0518A	Edema of fetal scalp
SRT	F-8612F	Edema of fetal chest wall

320

CONTEXT GROUP 12250 – Cardiac Ultrasound Common Linear Measurements

CID 12250
Cardiac Ultrasound Common Linear Measurements

324

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	G-A22A	Length
SRT	M-02550	Diameter
SRT	G-A193	Major Axis
SRT	G-A194	Minor Axis
SRT	M-02560	Circumference
SRT	G-A196	Radius
LN	59089-3	ROI Thickness by US
LN	59090-1	ROI Internal Dimension by US

CONTEXT GROUP 12251 – Cardiac Ultrasound Linear Valve Measurements

CID 12251
328 **Cardiac Ultrasound Linear Valve Measurements**

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
LN	59091-9	D-E Excursion
LN	59109-9	Leaflet Separation

LN	59110-7	Leaflet Thickness
LN	59122-2	C-E Distance

CONTEXT GROUP 12252 – Cardiac Ultrasound Cardiac Function

332

CID 12252
Cardiac Ultrasound Cardiac Function

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	F-32070	Cardiac ejection fraction
LN	59117-2	Mean Velocity of Circumferential Fiber Shortening (Mean VcFv)
LN	59118-0	HR-Corrected Mean Velocity of Circumferential Fiber Shortening
LN	59092-7	% Thickening
LN	59132-1	Fractional Shortening

336   **CONTEXT GROUP 12253 – Cardiac Ultrasound Area Measurements**

CID 12253
Cardiac Ultrasound Area Measurements

340   **Type: Extensible   Version: 20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
LN	20226-7	Flow Area
SRT	G-A166	Area
LN	59123-0	Jet Area

CONTEXT GROUP 12254 – Cardiac Ultrasound Hemodynamic Measurements

CID 12254
344   **Cardiac Ultrasound Hemodynamic Measurements**

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	122182	R-R interval
DCM	109072	Tau

DCM	109071	Indicator mean transit time
LN	59082-8	Closure to Opening Time
LN	59083-6	Isovolumic Relaxation Time
LN	59084-4	Isovolumic Contraction Time
LN	20222-6	Ejection Time
LN	59085-1	Pre-Ejection Period
LN	59119-8	Filling Time
SRT	F-31000	Blood Pressure
LN	59086-9	Heart Rate-Corrected Ejection Time
LN	59087-7	Heart Rate-Corrected Pre-Ejection Period
LN	59105-7	A-Wave Duration
LN	59088-5	Pre-Ejection Period/Ejection Time Ratio
LN	59108-1	Envelope Duration
LN	59121-4	Time to Peak by US
LN	59120-6	dP/dt by US

CONTEXT GROUP 12255 – Cardiac Ultrasound Myocardium Measurements

348 **CID 12255**
Cardiac Ultrasound Myocardium Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	122447	Wall Mass
LN	59099-2	Myocardial Performance Index (Tei)
LN	59094-3	Endocardial Area
LN	59093-5	Epicardial Area

352 **CONTEXT GROUP 12257 – Cardiac Ultrasound Left Ventricle**

CID 12257
Cardiac Ultrasound Left Ventricle

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12239 Cardiac Output Properties		

INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
INCLUDE CID 12252 Cardiac Ultrasound Cardiac Function		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		
INCLUDE CID 12255 Cardiac Ultrasound Myocardium Measurements		
SRT	G-D705	Volume
LN	18155-2	Interventricular Septum to Posterior Wall Thickness Ratio
SRT	G-037B	Ratio of MV Peak Velocity to LV Peak Tissue Velocity E-Wave
LN	59097-6	Left Ventricle Meridional Wall Stress
LN	59095-0	Time to Left Ventricle S Tissue Velocity
LN	59096-8	Time to Left Ventricle E Tissue Velocity
LN	59124-8	Tissue Velocity Time Integral (VTI) for the area under Left Ventricle E wave
LN	59125-5	Tissue Velocity Time Integral (VTI) for the area under Left Ventricle A wave
LN	59129-7	Left Ventricle E to A Tissue Velocity Ratio
LN	59133-9	Peak Tissue Velocity

356

CONTEXT GROUP 12258 – Cardiac Ultrasound Right Ventricle

CID 12258
Cardiac Ultrasound Right Ventricle

360 **Type: Extensible   Version: 20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		
INCLUDE CID 12255 Cardiac Ultrasound Myocardium Measurements		
SRT	G-D705	Volume

CONTEXT GROUP 12259 – Cardiac Ultrasound Ventricles Measurements

364

CID 12259
Cardiac Ultrasound Ventricles Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12257 Cardiac Ultrasound Left Ventricle		
INCLUDE CID 12258 Cardiac Ultrasound Right Ventricle		

CONTEXT GROUP 12260 – Cardiac Ultrasound Pulmonary Artery

368

CID 12260
Cardiac Ultrasound Pulmonary Artery

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		

372 **CONTEXT GROUP 12261 – Cardiac Ultrasound Pulmonary Vein**

CID 12261
Cardiac Ultrasound Pulmonary Vein

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		
INCLUDE CID 3612 Blood Velocity Measurements		
LN	59112-3	Pulmonary Vein A Duration Mitral Valve A Duration Ratio
LN	59113-1	Pulmonary Vein A VTI to Mitral Valve VTI Ratio
LN	59114-9	Pulm Vein A duration to MV A duration difference

376

CONTEXT GROUP 12262 – Cardiac Ultrasound Pulmonary Valve

CID 12262
Cardiac Ultrasound Pulmonary Valve

380   **Type: Extensible   Version: 20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12239 Cardiac Output Properties		
INCLUDE CID 12251 Cardiac Ultrasound Linear Valve Measurements		
INCLUDE CID 12252 Cardiac Ultrasound Cardiac Function		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		
LN	59101-6	Pulmonary Artery Pressure using Accel Time
LN	20295-2	Time from Q wave to Pulmonic Valve Closes
LN	59100-8	A-Wave Amplitude
LN	59126-3	B-C Slope

CONTEXT GROUP 12263 – Cardiac Ultrasound Venous Return Pulmonary Measurements

CID 12263
384   **Cardiac Ultrasound Venous Return Pulmonary Measurements**

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12261 Cardiac Ultrasound Pulmonary Vein		
INCLUDE CID 12262 Cardiac Ultrasound Pulmonary Valve		

CONTEXT GROUP 12264 – Cardiac Ultrasound Venous Return Systemic Measurements

388   **CID 12264**
Cardiac Ultrasound Venous Return Systemic Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12239 Cardiac Output Properties		

INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements
INCLUDE CID 12252 Cardiac Ultrasound Cardiac Function
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements
INCLUDE CID 3612 Blood Velocity Measurements

392 **CONTEXT GROUP 12265 – Cardiac Ultrasound Atria and Atrial Septum Measurements**

CID 12265
Cardiac Ultrasound Atria and Atrial Septum Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12255 Cardiac Ultrasound Myocardium Measurements		
SRT	G-D705	Volume
LN	17985-3	Left Atrium to Aortic Root Ratio
LN	59131-3	Left Atrium Volume to Right Atrium Volume Ratio

396

CONTEXT GROUP 12266 – Cardiac Ultrasound Mitral Valve

CID 12266
400 **Cardiac Ultrasound Mitral Valve**

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12239 Cardiac Output Properties		
INCLUDE CID 12251 Cardiac Ultrasound Linear Valve Measurements		
INCLUDE CID 12252 Cardiac Ultrasound Cardiac Function		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		
INCLUDE CID 3612 Blood Velocity Measurements		

LN	18035-6	Mitral Regurgitation dP/dt derived from Mitral Reg. velocity
LN	59098-4	Mitral Valve E-septal Separation
LN	18036-4	Mitral Valve EPSS, E wave

CONTEXT GROUP 12267 – Cardiac Ultrasound Tricuspid Valve

404

CID 12267
Cardiac Ultrasound Tricuspid Valve

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12239 Cardiac Output Properties		
INCLUDE CID 12251 Cardiac Ultrasound Linear Valve Measurements		
INCLUDE CID 12252 Cardiac Ultrasound Cardiac Function		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		
INCLUDE CID 3612 Blood Velocity Measurements		
SRT	R-003A9	Tricuspid Diastolic Filling Period (DFPt)
LN	20296-0	Time from Q wave to Tricuspid Valve Opens

408 **CONTEXT GROUP 12268 – Cardiac Ultrasound Atrioventricular Valves Measurements**

CID 12268
Cardiac Ultrasound Atrioventricular Valves Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12266 Cardiac Ultrasound Mitral Valve		
INCLUDE CID 12267 Cardiac Ultrasound Tricuspid Valve		

412

CONTEXT GROUP 12269 – Cardiac Ultrasound Interventricular Septum Measurements

CID 12269
Cardiac Ultrasound Interventricular Septum Measurements

416

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		

CONTEXT GROUP 12270 – Cardiac Ultrasound Aortic Valve

420

CID 12270
Cardiac Ultrasound Aortic Valve

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12239 Cardiac Output Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
INCLUDE CID 12252 Cardiac Ultrasound Cardiac Function		
INCLUDE CID 12253 Cardiac Ultrasound Area Measurements		
INCLUDE CID 12254 Cardiac Ultrasound Hemodynamic Measurements		
LN	17996-0	Aortic Valve Cusp Separation

424   **CONTEXT GROUP 12271 – Cardiac Ultrasound Outflow Tracts Measurements**

CID 12271
Cardiac Ultrasound Outflow Tracts Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12257 Cardiac Ultrasound Left Ventricle		
INCLUDE CID 12258 Cardiac Ultrasound Right Ventricle		
INCLUDE CID 12262 Cardiac Ultrasound Pulmonary Valve		
INCLUDE CID 12270 Cardiac Ultrasound Aortic Valve		

428

CONTEXT GROUP 12272 – Cardiac Ultrasound Semilunar Valves, Annulate and Sinuses Measurements

CID 12272
432 **Cardiac Ultrasound Semilunar Valves, Annulate and Sinuses Measurements**

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12262 Cardiac Ultrasound Pulmonary Valve		
INCLUDE CID 12270 Cardiac Ultrasound Aortic Valve		

CONTEXT GROUP 12273 – Cardiac Ultrasound Aortic Sinotubular Junction

436 **CID 12273**
Cardiac Ultrasound Aortic Sinotubular Junction

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
LN	59116-4	Aortic Sinotubular Junction to Aortic Root Ratio

440 **CONTEXT GROUP 12274 – Cardiac Ultrasound Aorta Measurements**

CID 12274
Cardiac Ultrasound Aorta Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		
INCLUDE CID 12270 Cardiac Ultrasound Aortic Valve		
INCLUDE CID 12273 Cardiac Ultrasound Aortic Sinotubular Junction		

444

CONTEXT GROUP 12275 – Cardiac Ultrasound Coronary Arteries Measurements

CID 12275
Cardiac Ultrasound Coronary Arteries Measurements

448

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		

CONTEXT GROUP 12276 – Cardiac Ultrasound Aorto Pulmonary Connections Measurements

CID 12276
452   **Cardiac Ultrasound Aorto Pulmonary Connections Measurements**

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 3612 Blood Velocity Measurements		
LN	29462-9	Pulmonary-to-Systemic Shunt Flow Ratio

CONTEXT GROUP 12277 – Cardiac Ultrasound Pericardium and Pleura Measurements

456   **CID 12277**
Cardiac Ultrasound Pericardium and Pleura Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
INCLUDE CID 12250 Cardiac Ultrasound Common Linear Measurements		

460 **CONTEXT GROUP 12279 – Cardiac Ultrasound Fetal General Measurements**

CID 12279
Cardiac Ultrasound Fetal General Measurements

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
INCLUDE CID 12004 Fetal Biometry Ratios		
LN	11988-3	Thoracic Circumference
LN	33068-8	Thoracic Area
LN	59073-7	Cardiac Circumference, transverse by US
LN	59074-5	Cardiothoracic Circumference Ratio
LN	59075-2	Cardiac Cross-sectional Area, transverse by US
LN	59076-0	Cardiothoracic Area Ratio
LN	11820-8	Biparietal Diameter
LN	33069-6	Nuchal Translucency
LN	11963-6	Femur Length
LN	11979-2	Abdominal Circumference
LN	11818-2	Anterior-Posterior Abdominal Diameter
LN	11819-0	Anterior-Posterior Trunk Diameter
LN	11824-0	BPD area corrected
LN	11860-4	Cisterna Magna
LN	11984-2	Head Circumference
LN	11851-3	Occipital-Frontal Diameter
LN	11862-0	Tranverse Abdominal Diameter
LN	11863-8	Trans Cerebellar Diameter
LN	11864-6	Transverse Thoracic Diameter
LN	59077-8	Foramen Ovale Diameter/Aortic Root Diameter
LN	59078-6	Left Ventricle/Right Ventricle Diameter Ratio
SRT	F-00AA0	Number of umbilical arteries

464

CONTEXT GROUP 12280 – Cardiac Ultrasound Target Sites

CID 12280
Cardiac Ultrasound Target Sites

468   **Type: Extensible**   **Version: 20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	R-4210B	Anterior Wall
SRT	R-42175	Posterior Wall
SRT	T-3500E	Cardiac valve annulus
SRT	T-42340	Preductal region of aortic arch
SRT	T-42350	Postductal region of aortic arch
SRT	R-421AA	Vena Contracta
SRT	T-42304	Transverse Aortic Arch
SRT	M-36700	Effusion
SRT	T-35002	Cardiac Valve Leaflet
SRT	T-44200	Right Pulmonary Artery
SRT	T-44400	Left Pulmonary Artery
SRT	T-32550	Right Ventricle Outflow Tract
SRT	T-32650	Left Ventricle Outflow Tract
SRT	T-48510	Right Superior Pulmonary Vein
SRT	T-48520	Right Inferior Pulmonary Vein
SRT	T-48530	Left Superior Pulmonary Vein
SRT	T-48540	Left Inferior Pulmonary Vein
SRT	T-48505	Pulmonary Vein Right Middle Segment
SRT	T-F6859	Pulmonary Vein Common Left Segment
SRT	T-F6858	Pulmonary Vein Common Right Segment
SRT	M-2460C	Pulmonary Vein confluence to Atrium Connection

CONTEXT GROUP 12281 – Cardiac Ultrasound Target Site Modifiers

472

CID 12281
Cardiac Ultrasound Target Site Modifiers

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	G-A104	Lateral
SRT	G-A109	Medial
SRT	G-A105	Anterior
SRT	G-A106	Posterior
SRT	G-A115	Inferior
SRT	G-A119	Distal
SRT	G-A118	Proximal
SRT	G-A109	Middle

476

CONTEXT GROUP 12282 – Cardiac Ultrasound Venous Return Systemic Finding Sites

CID 12282
Cardiac Ultrasound Venous Return Systemic Finding Sites

480

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-48610	Superior Vena Cava
SRT	M-2460D	Right Superior Vena Cava
SRT	T-48611	Left Superior Vena Cava
SRT	T-48710	Inferior Vena Cava
SRT	T-48720	Hepatic Vein
SRT	T-D087E	Hemi-Fontan Pathway
SRT	T-D0884	Glenn Pathway
SRT	T-D087C	Fontan Pathway
SRT	T-D087D	Fontan Inferior Vena Cava Pathway
SRT	T-D0882	Fontan Fenestration
SRT	T-D0880	Fontan Pulmonary Artery Connection
SRT	DD-66228	Fontan Baffle Leak
SRT	T-D0887	Mustard or Senning Superior Vena Cava Pathway
SRT	T-D0888	Mustard or Senning Inferior Vena Cava Pathway

SRT	T-D0885	Mustard or Senning Common Systemic Venous Pathway

CONTEXT GROUP 12283 – Cardiac Ultrasound Venous Return Pulmonary Finding Sites

484

CID 12283
Cardiac Ultrasound Venous Return Pulmonary Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-48581	Pulmonary Vein
SRT	T-4858F	Pulmonary Vein Great Vessel
SRT	M-20103	Cor Triatriatum Orifice
SRT	T-D087B	Pulmonary Vein to Atrium Connection
SRT	T-D0886	Mustard or Senning Pulmonary Venous Pathway

488   **CONTEXT GROUP 12284 – Cardiac Ultrasound Atria and Atrial Septum Finding Sites**

CID 12284
Cardiac Ultrasound Atria and Atrial Septum Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-32200	Right Atrium
SRT	T-32300	Left Atrium
SRT	D4-31320	Common Atrium
SRT	T-32310	Left Auricular Appendage
SRT	T-32210	Right Auricular Appendage
SRT	T-32150	Interatrial Septum Structure
SRT	D4-31220	Atrial Septal Defect
SRT	T-32156	Limbus of Fossa Ovalis
SRT	D4-31012	Patent Foramen Ovale
SRT	T-D0882	Fontan Fenestration
SRT	DD-66228	Fontan Baffle Leak

492

CONTEXT GROUP 12285 – Cardiac Ultrasound Atrioventricular Valves Finding Sites

496

CID 12285
Cardiac Ultrasound Atrioventricular Valves Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-35300	Mitral Valve
SRT	T-35100	Tricuspid Valve
SRT	T-35008	Common (non-mitral, non-tricuspid) Atrioventricular Valve Structure

500   **CONTEXT GROUP 12286 – Cardiac Ultrasound Interventricular Septum Finding Sites**

CID 12286
Cardiac Ultrasound Interventricular Septum Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-32410	Interventricular Septum
SRT	D4-31150	Ventricular Septal Defect
SRT	M-20102	Bulboventricular Foramen

504

CONTEXT GROUP 12287 – Cardiac Ultrasound Ventricles Finding Sites

CID 12287
Cardiac Ultrasound Ventricles Finding Sites

508   **Type: Extensible   Version: 20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-32600	Left Ventricle
SRT	T-32500	Right Ventricle
SRT	D4-31120	Common Ventricle

CONTEXT GROUP 12288 – Cardiac Ultrasound Outflow Tracts Finding Sites

512

CID 12288
Cardiac Ultrasound Outflow Tracts Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-32600	Left Ventricle
SRT	T-32500	Right Ventricle
SRT	T-D0879	Rastelli Interventricular Tunnel
SRT	T-D087F	Right Ventricle to Pulmonary Artery Conduit Anastomosis
SRT	T-D0881	Left Ventricle to Pulmonary Artery Conduit Anastomosis
SRT	T-35400	Aortic Valve
SRT	T-35200	Pulmonic Valve

516   **CONTEXT GROUP 12289 – Cardiac Ultrasound Semilunar Valves, Annulate and Sinuses Finding Sites**

CID 12289
Cardiac Ultrasound Semilunar Valves, Annulus and Sinuses Finding Sites

520   **Type: Extensible   Version: 20100317**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-35400	Aortic Valve
SRT	T-42110	Root of Aorta
SRT	T-35200	Pulmonic Valve
SRT	T-35014	Truncal Valve Structure
SRT	T-D087A	Neoaortic Valve
SRT	T-D0883	Neoaortic Root

CONTEXT GROUP 12290 – Cardiac Ultrasound Pulmonary Arteries Finding Sites

524

CID 12290
Cardiac Ultrasound Pulmonary Arteries Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-44100	Pulmonary Trunk
SRT	T-44000	Pulmonary Artery
SRT	T-D0877	Aorta to Pulmonary Artery Connection

528 **CONTEXT GROUP 12291 – Cardiac Ultrasound Aorta Finding Sites**

CID 12291
Cardiac Ultrasound Aorta and Coronary Arteries Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-42110	Root of Aorta
SRT	T-42200	Structure Sinus of Valsalva
SRT	T-42220	Left Sinus of Valsalva
SRT	T-42210	Right Sinus of Valsalva
SRT	T-42231	Non-coronary Sinus
SRT	T-42102	Aortic Sinotubular Junction
SRT	T-42100	Ascending Aorta
SRT	T-42300	Aortic Arch
SRT	T-42310	Aortic Isthmus
SRT	D4-32014	Coarctation of Aorta
SRT	T-42070	Thoracic Aorta
SRT	T-42500	Abdominal Aorta
SRT	T-42510	Supra Renal Aorta
SRT	T-42520	Infra-Renal Aorta
SRT	T-46010	Innominate Artery
SRT	T-45110	Right Common Carotid Artery
SRT	T-46110	Right Subclavian Artery
SRT	T-45120	Left Common Carotid Artery
SRT	T-46120	Left Subclavian Artery

532

CONTEXT GROUP 12292 – Cardiac Ultrasound Coronary Arteries Finding Sites

CID 12292

536

Cardiac Ultrasound Aorta and Coronary Arteries Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-43107	Left Main Coronary Artery
SRT	T-43120	Circumflex Coronary Artery
SRT	T-43121	Proximal Circumflex Coronary Artery
SRT	T-43127	Mid Circumflex Coronary Artery
SRT	T-43122	Distal Circumflex Coronary Artery
SRT	T-43110	Anterior Descending Branch of Left Coronary Artery
SRT	T-43002	Septal Artery
SRT	T-43203	Right Coronary Artery
SRT	T-D0878	Posterior Descending Coronary Artery

CONTEXT GROUP 12293 – Cardiac Ultrasound Aorto Pulmonary Connections Finding Sites

540

CID 12293

Cardiac Ultrasound Aorto Pulmonary Connections Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	D4-32012	Patent Ductus Arteriosus
SRT	T-D0877	Aorta to Pulmonary Artery Connection
SRT	D1-50666	Arteriovenous Fistula

544   **CONTEXT GROUP 12294 – Cardiac Ultrasound Pericardium and Pleura Finding Sites**

CID 12294

Cardiac Ultrasound Pericardium and Pleura Finding Sites

Type: Extensible   Version: 20100317

Coding Scheme Designator (0008,0102)	Code Value (0008,0100	Code Meaning (0008,0104)
SRT	T-39000	Pericardium
SRT	T-29000	Pleura
SRT	T-29200	Left Pleura

SRT	T-29100	Right Pleura

548

548 **Annex D   DICOM Controlled Terminology Definitions (Normative)**

Retire the following definition in Part 16 Annex D 'DICOM Controlled Terminology Definitions':

Code Value	Code Meaning	Definition	Notes
109070	*End of systole*		***Retired. Replaced with (R-FAB5B, SRT, "End systole")***

Add the following definitions to Part 16 Annex D 'DICOM Controlled Terminology Definitions':

Code Value	Code Meaning	Definition	Notes
122246	BSA = 0.0004688*WT^(0.8168-0.0154*log(WT))	BSA = 0.0004688*(1000*WT)^(0.8168-0.0154*log(1000*WT)) Where (WT is weight in kilogram) Units = m^2 Boyd, Edith. *The Growth of the Surface Area of the Human Body* (originally published in 1935 by the University of Minnesota Press), Greenwood Press, Westport, Connecticut, 1975, p. 102. Equation (35)	
125015	Fetus Characteristics	Fetus characteristics (findings section title)	
125016	Fetal Measurements	Fetal Measurements (findings section title)	
125195	Pediatric Cardiac Ultrasound Report	Pediatric Cardiac Ultrasound Report (document title)	
125196	Fetal Cardiac Ultrasound Report	Fetal Cardiac Ultrasound Report (document title)	
125197	Adult Congenital Cardiac Ultrasound Report	Adult Congenital Cardiac Ultrasound Report (document title)	

125227	Modified Simpson	Modified Simpson's Method of estimating ventricular volume, based on the method of disks with paired apical views. Schiller NB, et al. "Recommendations for quantitation of the left ventricle by two-dimensional echocardiography. American Society of Echocardiography Committee on Standards, Subcommittee on Quantitation of Two-Dimensional Echocardiograms". *J Am Soc Echocardiogr.* 1989 2(5):358-367. Sep-Oct.	
125228	Bullet Method	Bullet method of estimating ventricular volume. Volume = 5/6 * L * S L : Left ventricle long axis length S : Left ventricle area, SAX view at level of Mitral Valve.	
125270	Left Ventricle Mass by Area Length	method to measure the mass of the Left Ventricle via the ASE area-length method at end diastole. LV Mass = 1.05*(5/6*(A1*(L+t)) - 5/6*(A2*L)) A1 = Left Ventricle epicardial SAX area at the level of of the papillary muscle tips at end diastole. A2 = Left Ventricle endocardial SAX area cavity area at the level of the papillary muscle tips at end diastole. L = Left Ventricle apical view long axis length at end diastole. t = Myocardial thickness can be computed as : t = sqrt(A1/3.14) – sqrt (A2/3.14) Reference: 1) Schiller, N.B., et al. "Recommendations for Quantification of the LV by Two-dimensional Echocardiography." J Am Soc Echo, Vol. 2, No. 5: 358-367, Sep-Oct 1989. 2) Reichek, N., et al. "Anatomic Validation of Left Ventricular Mass Estimates from Clinical Two-dimensional Echocardiography: Initial Results." Circulation, Vol. 67, No. 2: 348-52, February 1983.	

125271	Left Ventricle Mass by M-mode – adjusted by Height	Equation = Left Ventricle Mass by M-mode (in gram) / (Height (in meter))^2.7 Reference: Giovanni De Simone, et al. "Effect of Growth on Variability of Left Ventricular Mass: Assessment of Allometric Signals in Adults and Children and Their Capacity to Predict Cardiovascular Risk". New York, New York and Cincinnati, Ohio.	
125272	Left Ventricle Mass by Truncated Ellipse – adjusted by Height	Equation = Left Ventricle Mass by Truncated Ellipse / Height^2.7 Reference: Giovanni De Simone, et al. "Effect of Growth on Variability of Left Ventricular Mass: Assessment of Allometric Signals in Adults and Children and Their Capacity to Predict Cardiovascular Risk". New York, New York and Cincinnati, Ohio.	
125273	Left Ventricle Mass by Area Length – adjusted by Height	Equation = Left Ventricle Mass by Area Length / Height^2.7 Reference: Giovanni De Simone, et al. "Effect of Growth on Variability of Left Ventricular Mass: Assessment of Allometric Signals in Adults and Children and Their Capacity to Predict Cardiovascular Risk". New York, New York and Cincinnati, Ohio.	

556

560

564   **Changes to NEMA Standards Publication PS 3.17-2009**

Digital Imaging and Communications in Medicine (DICOM)

Part 17: Explanatory Information

Add Informative Annex

568　**ANNEX X Pediatric, Fetal and Congenital Cardiac Ultrasound Reports (INFORMATIVE)**

X.1 CONTENT STRUCTURE

The Figure X.1-1 is an outline of the Pediatric, Fetal and Congenital Cardiac Ultrasound Reports.
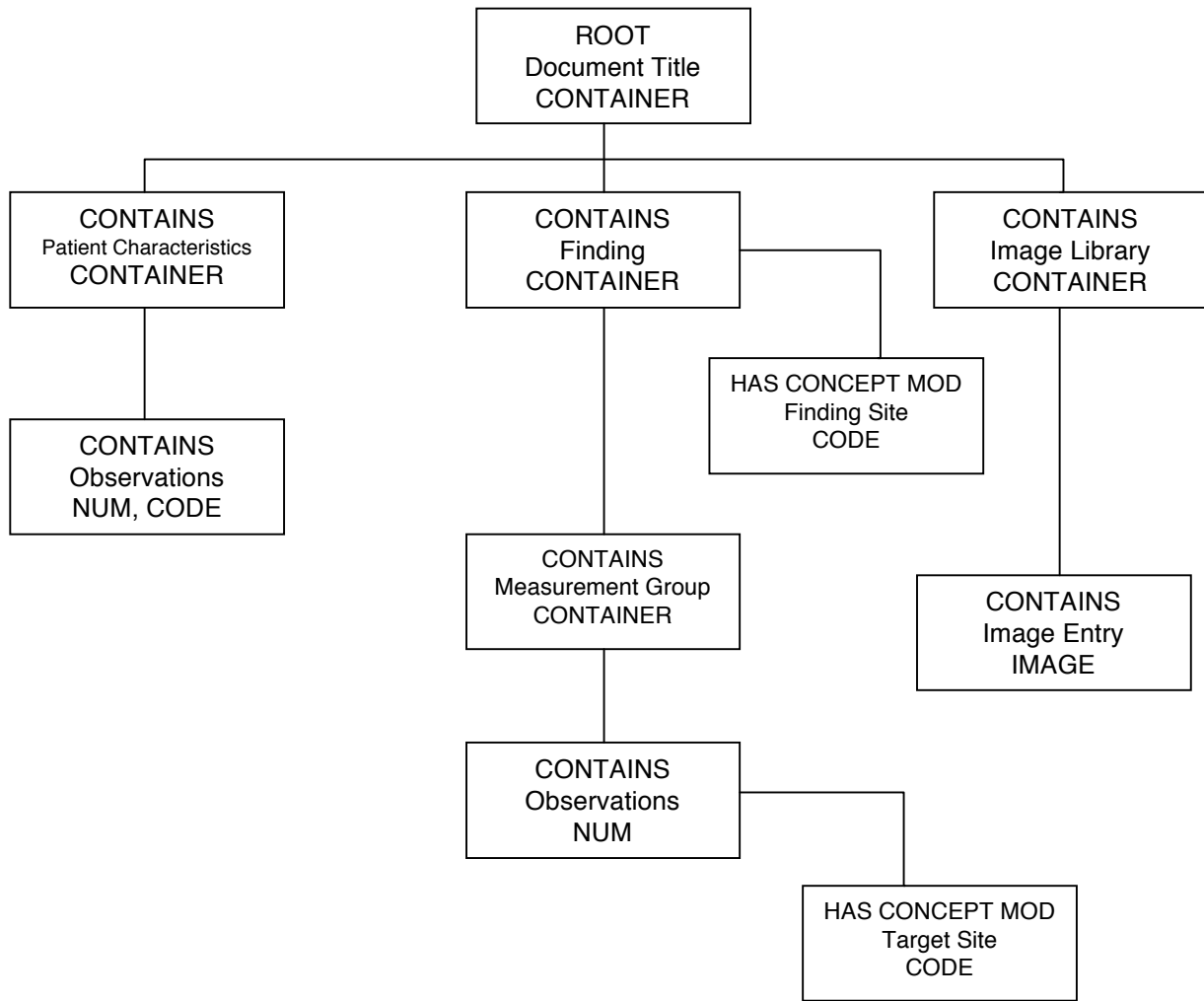
572　**Figure X.1-1 Top Level Structure of Content**

X.2 PEDIATRIC, FETAL AND CONGENITAL CARDIAC ULTRASOUND PATTERNS

The common Pediatric, Fetal and Congenital Cardiac Ultrasound measurement pattern is a group of
576　measurements obtained in the context of a protocol. Figure X.2-1 shows the pattern.

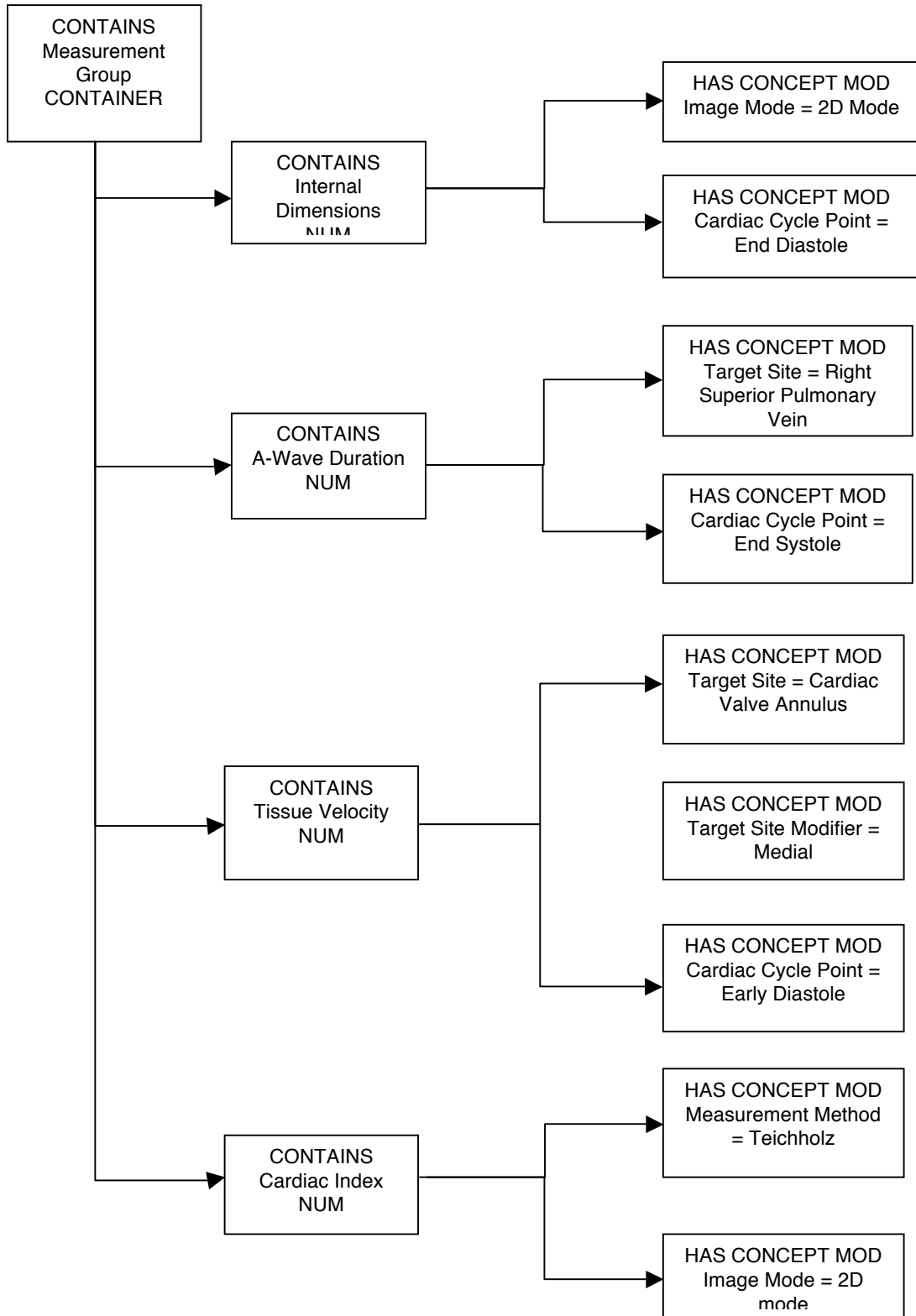**Figure X.2-1 Pediatric, Fetal and Congenital Cardiac Ultrasound Measurement Group Example**

X.3 MEASUREMENT TERMINOLOGY COMPOSITION

580 Because of the wide variety of congenital issues in fetal and pediatric cardiology, DICOM identifies these findings primarily with post-coordination. The concept name of the base content item typically specifies a property, which then requires an anatomic site concept modifier.

Concept Name of Modifier	Value Set
(G-C036, SRT, "Measurement Method")	CID 12227 Cardiac Ultrasound Measurement Methods
(G-C0E3, SRT, "Finding Site")	CID 12280 Cardiac Ultrasound Target Sites
(G-C048, SRT, "Flow Direction")	CID 12221 Flow Direction
(R-4089A, SRT, "Respiratory Cycle Point")	CID 12234 Respiration State
(R-4089A, SRT, "Cardiac Cycle Point")	CID 12233 Cardiac Phase
(121401, DCM, "Derivation")	CID 3627 Measurement Type

584 Further qualification specifies the image mode and the image plane using HAS ACQ CONTEXT with the value sets shown below.

Concept Name	Value Set
(G-0373, SRT, "Image Mode")	CID 12224 Ultrasound Image Modes
(111031, DCM, "Image View")	CID 12226 Echocardiography Image View