

Digital Imaging and Communications in Medicine (DICOM)

Supplement 71: Vascular Ultrasound Procedure Reports

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DICOM Working Group 12

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Scope and Field of Application

- 76 This supplement to the DICOM standard defines templates for vascular ultrasound procedure reports. Ultrasound procedure reports provide evidence for diagnostic interpretation: not the output, which is the physician report. Physician reports is the subject of a future Supplement.

Part 3, Annex A Addendum

80 Add the following to PS 3.3

ANNEX X (INFORMATIVE)

X.1 Vascular Report Structure

84

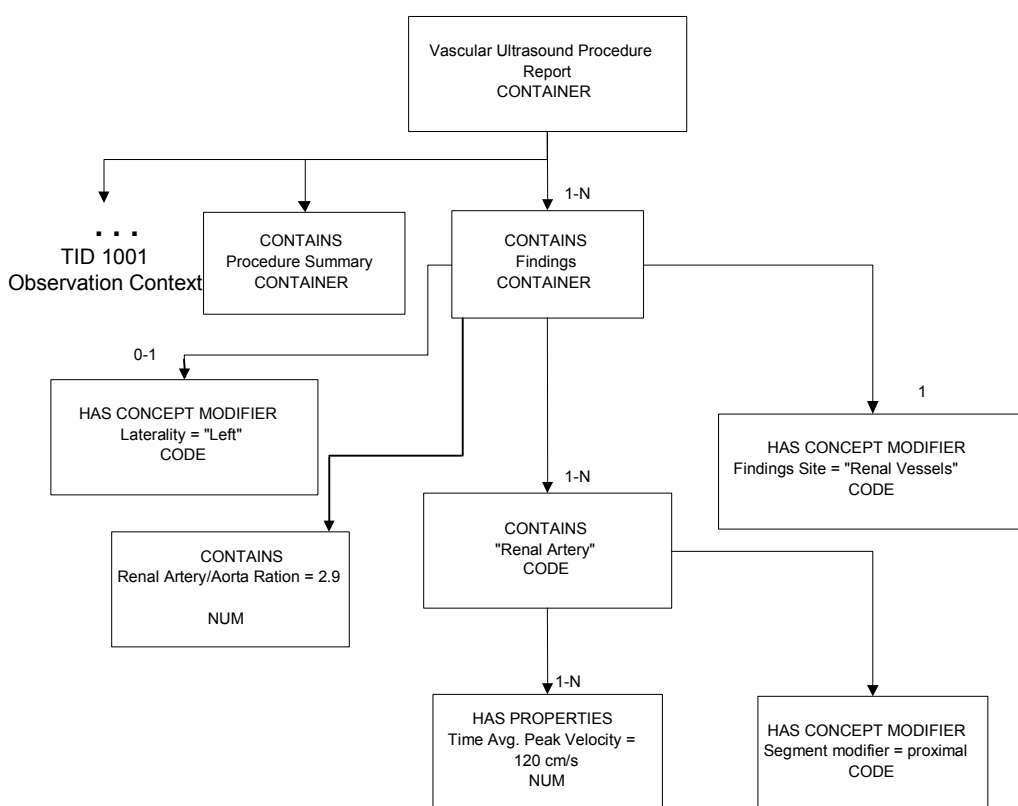


Figure X.2-1 Vascular Numeric Measurement Example

88 The vascular procedure report partitions numeric measurements into section headings by anatomic region and by laterality. A laterality concept modifier of the section heading concept name specifies whether laterality is left or right. Therefore, laterally paired anatomy sections may appear two times, once for each laterality. Findings of unpaired anatomy, are separately contained in a separate “unilateral” section container. Therefore, in vascular ultrasound, laterality is always expressed at the section heading level with one of three states: left, right, or unilateral (unpaired). There is no provision for anatomy of unknown laterality other than as a TEXT content item in the summary.

96 Note that expressing laterality at the heading level differs from OB-GYN Pelvic and fetal vasculature which expresses laterality as concept modifiers of the anatomic containers.

Section Heading Concept Name	Section Heading Laterality
Cerebral Vessels	Left, Right or Unilateral
Artery of Neck	Left, Right
Artery of Lower Extremity	Left, Right
Vein of Lower Extremity	Left, Right
Artery of Upper Extremity	Left, Right
Vein of Upper Extremity	Left, Right
Vascular Structure of Kidney	Left, Right
Artery of Abdomen	Left, Right or Unilateral
Vein of Abdomen	Left, Right or Unilateral

100 The common vascular pattern is a battery of measurements and calculations repeatedly applied to various anatomic locations. The anatomic location is the acquisition context of the measurement group. For example, a measurement group may have a measurement source of Common Iliac Artery with several measurement instances and measurement types such as mean velocity, peak systolic velocity, acceleration time, etc.

104 There are distinct anatomic concepts to modify the base anatomy concept. The modification expression is a content item with a modifier concept name and value selected from a Context Group as the table shows below.

Anatomic Modifier Concept Name	Context Group	Usage
(G-C171, SRT, "Laterality")	CID 244 Laterality	Distinguishes laterality
(G-A1F8, SRT, "Topographical Modifier")	CID 12116 Vessel Segment Modifiers	Distinguishes the location along a segment: prox, mid, distal, ...
(125101, DCM, "Vessel Branch")	CID 12117 Vessel Branch Modifiers	Distinguishes between one of multiple branches: inferior, middle

X.2 Vascular Examples

108 The following are simple, non-comprehensive illustrations of significant report sections.

Example 1: Renal Vessels

Nest	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1	Vascular Ultrasound Procedure Report		5100
1.1	Language of Content Item and Descendants	English	1204
1.2	Subject Name	John Doe	1007
1.3	Subject ID	123-45-9876	1007
1.4	Procedure Study Instance UID	1.2.842.111724.7678.12.33	1005
1.5	Procedure Study Component UID	1.2.842.111724.7678.55.33	1005
1.6	Procedure Accession Number	20011007-21	1005
1.7	Patient Characteristics		5101

Nest	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.7.n	...		5101
1.8	Summary		5102
1.8.n	...		5102
1.9	Findings		5103
1.9.1	Finding Site	Vascular Structure Of Kidney	5103
1.9.2	Laterality	Right	5103
1.9.3	Renal Artery		5104
1.9.3.1	Topographical Modifier	Origin	5104
1.9.3.2	Peak Systolic Velocity	420 cm/s	300
1.9.3.3	End Diastolic Velocity	120 cm/s	300
1.9.3.4	Resistive Index	3.7	300
1.9.3.5	Pulsatility Index	0.7	300
1.9.3.6	Systolic to Diastolic Velocity Ratio	3.5	300
1.9.4	Renal Artery		5104
1.9.4.1	Topographical Modifier	Proximal	5104
1.9.4.n	... <i>other measurements</i>		300
1.9.5	Renal Artery		5104
1.9.5.1	Topographical Modifier	Middle	5104
1.9.5.n	... <i>other measurements</i>		300
1.9.6	Renal Artery		5104
1.9.6.1	Topographical Modifier	Distal	5104
1.9.6.n	... <i>other measurements</i>		300
1.9.7	Renal Vein		5104
1.9.7.1	Topographical Modifier	Middle	5104
1.9.7.2	Peak Systolic Velocity	120 cm/s	300
1.9.7.n	... <i>other measurements</i>		300
1.9.8	Renal Artery/Aorta Ratio	2.9	5103
1.9.n	<i>other renal vessels</i>		5104
1.10	Findings		5103
1.10.1	Finding Site	Vascular Structure of Kidney	5103
1.10.2	Laterality	Left	5103
	...		5104

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Example 2: Carotids Extracranial

Nest	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1	Vascular Ultrasound Procedure Report		5100
1.n		5100
1.10	Findings		5103

Nest	Code Meaning of Concept Name	Code Meaning or Example Value	TID
1.10.1	Findings Sit	Artery of neck	5103
1.10.2	Laterality	Right	5103
1.10.3	Common Carotid Artery		5104
1.10.3.1	Topographical Modifier	Proximal	5104
1.10.3.2	Peak Systolic Velocity	80 cm/s	300
1.10.3.3	Peak Systolic Velocity	88 cm/s	300
1.10.3.4	Peak Systolic Velocity	84 cm/s	300
1.10.3.4.1	Derivation	Mean	300
1.10.4	Common Carotid Artery		5104
1.10.4.1	Topographical Modifier	Middle	5104
1.10.4.2	Peak Systolic Velocity	180 cm/s	300
1.10.5	Common Carotid Artery		5104
1.10.5.1	Topographical Modifier	Distal	5104
1.10.5.2	Peak Systolic Velocity	180 cm/s	300
1.10.6	Carotid bulb		5104
1.10.6.1	Peak Systolic Velocity	190 cm/s	300
1.10.7	Internal Carotid Artery		5104
1.10.7.1	Topographical Modifier	Proximal	5104
1.10.7.2	Peak Systolic Velocity	180 cm/s	300
1.10.8	Internal Carotid Artery		5104
1.10.8.1	Topographical Modifier	Distal	5104
1.10.8.2	Peak Systolic Velocity	180 cm/s	300
1.10.9	ICA/CCA velocity ratio	1.5	5103
1.10.n		300
1.11	Findings		5103
1.11.1	Finding Site	Artery of neck	5103
1.11.2	Laterality	Left	5103
		

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Part 16 Addendum

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

Annex A DCMR Templates (Normative)

VASCULAR ULTRASOUND SR TEMPLATES

120 **TID 5100 Vascular Ultrasound Report**

This is the template for the root the content tree for the vascular ultrasound procedure report.

Type: Extensible

124

**TID 5100
VASCULAR ULTRASOUND REPORT**

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1.		CONTAINER	EV (125100, DCM, "Vascular Ultrasound Procedure Report")	1	M		
2	> HAS OBS CONTEXT	CODE	EV (121432, DCM, "Procedural Scope of Findings")	1	U		DCID (12102) Intervention Phase
3	> HAS CONCEPT MOD	INCL UDE	DTID (1204) Language of Content Item and Descendants	1	U		
4	> HAS OBS CONTEXT	INCLUDE	DTID (1001) Observation Context	1	M		
5	> CONTAINS	INCLUDE	DTID (5101) Vascular Patient Characteristics	1	U		
6	> CONTAINS	CONTAINER	EV (111028, DCM, "Image Library")	1	U		
7	>> CONTAINS	IMAGE	No purpose of reference	1-n	M		
8	> CONTAINS	INCLUDE	DTID (5102) Vascular Procedure Summary Section	1	U		
9	> CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-40501, SRT, "Blood Vessel of Head") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12105) Intracranial Cerebral Vessels
10	> CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-40501, SRT, "Blood Vessel of Head") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12105) Intracranial Cerebral Vessels
11	> CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-40501, SRT, "Blood Vessel of Head") \$SectionLaterality = EV (G-A103, SRT, "Unilateral") \$Anatomy = DCID (12106) Intracranial Cerebral Vessels (unilateral)

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NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
12>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-45005, SRT, "Artery of neck") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12104) Extracranial Arteries \$AnatomyRatio = DCID (12123) Carotid Ratios
13>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-45005, SRT, "Artery of neck") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12104) Extracranial Arteries \$AnatomyRatio = DCID (12123) Carotid Ratios
14>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-47040, SRT, "Artery of Lower Extremity") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12109) Lower Extremity Arteries
15>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-47040, SRT, "Artery of Lower Extremity") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12109) Lower Extremity Arteries
16>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-49403, SRT, "Vein of Lower Extremity") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12110) Lower Extremity Veins
17>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-49403, SRT, "Vein of Lower Extremity") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12110) Lower Extremity Veins
18>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-47020, SRT, "Artery Of Upper Extremity") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12107) Upper Extremity Arteries
19>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-47020, SRT, "Artery Of Upper Extremity") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12107) Upper Extremity Arteries
20>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-49103, SRT, "Vein Of Upper Extremity") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12108) Upper Extremity Veins
21>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-49103, SRT, "Vein Of Upper Extremity") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12108) Upper Extremity Veins

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
22>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-71019, SRT, "Vascular Structure Of Kidney") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12115) Renal Vessels \$AnatomyRatio = DCID (12124) Renal Ratios
23>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-71019, SRT, "Vascular Structure Of Kidney") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12115) Renal Vessels \$AnatomyRatio = DCID (12124) Renal Ratios
24>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-46002, SRT, "Artery of Abdomen") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12111) Abdominal Arteries (lateral)
25>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-46002, SRT, "Artery of Abdomen") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12111) Abdominal Arteries (lateral)
26>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-46002, SRT, "Artery of Abdomen") \$SectionLaterality = EV (G-A103, SRT, "Unilateral") \$Anatomy = DCID (12112) Abdominal Arteries (unilateral)
27>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-487A0, SRT, "Vein of Abdomen") \$SectionLaterality = EV (G-A101, SRT, "Left") \$Anatomy = DCID (12113) Abdominal Veins (lateral)
28>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-487A0, SRT, "Vein of Abdomen") \$SectionLaterality = EV (G-A100, SRT, "Right") \$Anatomy = DCID (12113) Abdominal Veins (lateral)
29>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	1	U		\$SectionScope = DT (T-487A0, SRT, " Vein of Abdomen") \$SectionLaterality = EV (G-A103, SRT, "Unilateral") \$Anatomy = DCID (12114) Abdominal Veins (unilateral)
30>	CONTAINS	INCLUDE	DTID (5105) Ultrasound Graft Section	1	U		

TID 5101 Vascular Patient Characteristics

128 Patient Characteristic concepts in this template, which may replicate attributes in the Patient Study Module, are included here as possible targets of by-reference relationships from other content items in the SR tree.

132 Note: Several of the concepts in this template duplicate concepts in TID 1007 "Subject Context, Patient". The difference in use is that this template has those concepts as primary observations of the patient, while in TID 1007 the concepts are used to set (or reset) the context for other observations.

Type: Extensible

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**TID 5101
Vascular Patient Characteristics**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (121118, DCM, "Patient Characteristics")	1	M		
2	>	CONTAINS	NUM	EV (121033, DCM, "Subject Age")	1	U		Units = DCID (7456) Units of Measure for Age
3	>	CONTAINS	CODE	EV (121032, DCM, "Subject Sex")	1	U		DCID (7455) Sex
4	>	CONTAINS	NUM	EV (8867-4, LN, "Heart Rate")	1	U		
5	>	CONTAINS	NUM	EV (F-008EC, SRT, "Systolic Blood Pressure")	1	U		
6	>	CONTAINS	NUM	EV (F-008ED, SRT, "Diastolic Blood Pressure")	1	U		

TID 5102 Vascular Procedure Summary Section

Comments and observations of the procedure of immediate clinical interest.

140 Type: Extensible

**TID 5102
VASCULAR PROCEDURE SUMMARY SECTION**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	DT (121111, DCM, "Summary")	1	M		
2	>		TEXT	DCID (12101) Vascular Summary	1-n	M		

144 **TID 5103 Vascular Ultrasound Section**

Sections of a vascular ultrasound report are section containers of an anatomic region consisting of measurement group containers that contain the measurements.

Parameter Name	Parameter Usage
\$SectionScope	The concept name of the section heading modifier
\$SectionLaterality	The laterality (if any) of the anatomy in this section heading
\$Anatomy	The concept name of the vascular anatomy
\$AnatomyRatio	The concept name of anatomy-coordinated ratio concepts

148 Type: Extensible

**TID 5103
VASCULAR ULTRASOUND SECTION**

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	DT (121070, DCM, "Findings")	1	M		

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	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT, "Finding Site")	1	M		\$SectionScope
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT, "Laterality")	1	MC	IFF the anatomy of Row 2 of has laterality	\$SectionLaterality
4	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	1-n	M		\$AnatomyGroup = \$Anatomy
5	>	CONTAINS	INCLUDE	DTID (300) Measurement	1-n	U		\$Measurement = \$AnatomyRatio

152 **TID 5104 Vascular Ultrasound Measurement Group**

This template is an anatomy specific container of measurements.

Parameter Name	Parameter Usage
\$AnatomyGroup	The concept name of the vascular anatomy

Type: Extensible

156

**TID 5104
VASCULAR ULTRASOUND MEASUREMENT GROUP**

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		CONTAINER	\$AnatomyGroup	1	M		
2	> HAS CONCEPT MOD	CODE	EV (G-A1F8, SRT, "Topographical Modifier")	1	U		DCID (12116) Vessel Segment Modifiers
3	> HAS CONCEPT MOD	CODE	EV (125101, DCM, "Vessel Branch")	1-n	U		DCID (12117) Vessel Branch Modifiers
4	> CONTAINS	INCLUDE	DTID (300) Measurement	1-n	M		\$Measurement = DCID (12119) Vascular Ultrasound Property \$Derivation = DCID (3627) Measurement Type

Content Item Descriptions

Row 1	Specifies the anatomic context of the observations in the group.
Row 2	Details the anatomical location, e.g. proximal, middle, or distal
Row 3	The particular vessel branch, such as the inferior, medial or lateral

160

TID 5105 Ultrasound Graft Section

This template is a container of measurements on a vascular graft.

Type: Extensible

164

**TID 5105
ULTRASOUND GRAFT SECTION**

NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1		CONTAINER	DT (121070, DCM, "Findings")	1	M		
2	> HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT, "Finding Site")	1	M		DT (T-D000F, SRT, "Vascular Graft")
3	> HAS CONCEPT MOD	CODE	EV (G-C171, SRT, "Laterality")	1	U		DCID (244) Laterality
4	> HAS CONCEPT MOD	CODE	DT (G-D871, SRT, "Proximal anastomosis")	1	M		BCID (12103) Vascular Ultrasound Anatomic Location
5	> HAS CONCEPT MOD	CODE	DT (G-D872, SRT, "Distal Anastomosis")	1	M		BCID (12103) Vascular Ultrasound Anatomic Location
6	> HAS CONCEPT MOD	CODE	DT (125102, DCM, "Graft Type")	1	U		No BCID
7	> CONTAINS	INCLUDE	DTID (300) Measurement	1-n	M		\$Measurement = DCID (12119) Vascular Ultrasound Property

Content Item Descriptions

Proximal anastomosis	The proximal location of the graft
Distal anastomosis	The distal location of the graft
Graft type	The type of graft, e.g. "in situ", "prosthetic", "autogenous"

168

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

Annex B DCMR Context Groups (Normative)

VASCULAR ULTRASOUND CONTEXT GROUPS

172 **CONTEXT GROUP 12101 – Vascular Summary**

Type: Extensible Version: 20030327

**Vascular Summary 12101
(Most Restrictive Use: Defined)**

176

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	121106	Comment

CONTEXT GROUP 12102 – Intervention Phase

180 **Type: Extensible Version: 20030327**

**Intervention Phase 12102
(Most Restrictive Use: Defined)**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	R-422A4	After Procedure
SRT	R-40FB9	Before Procedure

184 **CONTEXT GROUP 12103 – Vascular Ultrasound Anatomic Location**

Type: Extensible Version: 20030327

**Context Group 12103
Vascular Ultrasound Anatomic Location
(Most Restrictive Use: Defined)**

188

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
INCLUDE CID 12104 Extracranial Arteries		

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
	INCLUDE CID 12105	Intracranial Cerebral Vessels
	INCLUDE CID 12106	Intracranial Cerebral Vessels (unilateral)
	INCLUDE CID 12107	Upper Extremity Arteries
	INCLUDE CID 12108	Upper Extremity Veins
	INCLUDE CID 12109	Lower Extremity Arteries
	INCLUDE CID 12110	Lower Extremity Veins
	INCLUDE CID 12111	Abdominal Arteries (lateral)
	INCLUDE CID 12112	Abdominal Arteries (unilateral)
	INCLUDE CID 12113	Abdominal Veins (lateral)
	INCLUDE CID 12114	Abdominal Veins (unilateral)
	INCLUDE CID 12115	Renal Vessels

CONTEXT GROUP 12104 – Extracranial Arteries

192 This context group specifies the anatomic location for vascular observations

Type: Extensible

Version: 20030327

**Context Group 12104
Extracranial Arteries**

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT		T-45160	Carotid Bifurcation
SRT		T-45170	Carotid Bulb
SRT		T-45100	Common Carotid Artery
SRT		T-45200	External Carotid Artery
SRT		T-45300	Internal Carotid Artery
SRT		T-46100	Subclavian Artery
SRT		T-45700	Vertebral Artery

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CONTEXT GROUP 12105 – Intracranial Cerebral Vessels

Type: Extensible

Version: 20030327

200

**Context Group 12105
Intracranial Cerebral Vessels**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-45540	Anterior Cerebral Artery
SRT	T-45530	Anterior Communicating Artery
SRT	G-0368	Anterior-Middle Cerebral Artery Bifurcation
SRT	G-0369	Anterior-Posterior Cerebral Artery Bifurcation
SRT	T-45308	Carotid Siphon
SRT	T-45430	Central Retinal Artery
SRT	T-48286	Central Retinal Vein
SRT	T-45300	Internal Carotid Artery
SRT	T-45600	Middle Cerebral Artery
SRT	T-45400	Ophthalmic Artery
SRT	T-45900	Posterior Cerebral Artery
SRT	T-45320	Posterior Communicating Artery

204 **CONTEXT GROUP 12106 – Intracranial Cerebral Vessels (unilateral)**

Type: Extensible Version: 20030327

**Context Group 12106
Intracranial Cerebral Vessels (unilateral)**

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Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-45800	Basilar Artery

CONTEXT GROUP 12107 – Upper Extremity Arteries

212 **Type: Extensible Version: 20030327**

**Context Group 12107
Upper Extremity Arteries**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-47100	Axillary artery
SRT	T-47160	Brachial artery
SRT	T-47340	Deep Palmar Arch of Radial Artery
SRT	T-46010	Innominate Artery
SRT	T-47300	Radial artery
SRT	T-46100	Subclavian artery
SRT	T-47240	Superficial Palmar Arch
SRT	T-47200	Ulnar artery

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CONTEXT GROUP 12108 – Upper Extremity Veins

Type: Extensible

Version: 20030327

220

**Context Group 12108
Upper Extremity Veins**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-49110	Axillary vein
SRT	T-48052	Basilic vein
SRT	T-49350	Brachial vein
SRT	T-49240	Cephalic vein
SRT	T-48620	Innominate vein
SRT	T-48170	Internal Jugular vein
SRT	T-49250	Median Cubital vein
SRT	T-49340	Radial vein
SRT	T-48330	Subclavian vein
SRT	T-49330	Ulnar vein
SRT	T-48610	Superior Vena Cava
SRT	T-49218	Deep Palmar Venous Arch
SRT	T-49217	Superficial Palmar Venous Arch

CONTEXT GROUP 12109 – Lower Extremity Arteries

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Type: Extensible

Version: 20030327

Context Group 12109
Lower Extremity Arteries

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-46710	Common Iliac Artery
SRT	T-47700	Anterior Tibial Artery
SRT	T-47400	Common Femoral Artery
SRT	T-47741	Dorsalis Pedis Artery
SRT	T-46910	External Iliac Artery
SRT	T-46740	Internal Iliac Artery
SRT	T-47630	Peroneal Artery
SRT	T-47690	Plantar Arterial Arch
SRT	T-47500	Popliteal Artery
SRT	T-47600	Posterior Tibial Artery
SRT	T-47440	Profunda Femoris Artery
SRT	T-47403	Superficial Femoral Artery

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CONTEXT GROUP 12110 – Lower Extremity Veins

Type: Extensible

Version: 20030327

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Context Group 12110
Lower Extremity Veins

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-49630	Anterior Tibial Vein
SRT	T-49423	Lateral calf perforator
SRT	G-035B	Common Femoral Vein
SRT	T-48920	Common Iliac Vein
SRT	T-48930	External Iliac Vein
SRT	T-4942D	Gastrocnemius vein
SRT	G-036F	Giacomini vein
SRT	T-49530	Great Saphenous Vein
SRT	T-49550	Lesser Saphenous Vein
SRT	T-49650	Peroneal Vein
SRT	T-49640	Popliteal Vein
SRT	G-036E	Posterior arch vein
SRT	T-49620	Posterior Tibial Vein

SRT	T-49660	Profunda Femoris Vein
SRT	T-D930A	Saphenofemoral Junction
SRT	G-036B	Soleal vein
SRT	G-035A	Superficial Femoral Vein
SRT	T-4942C	Thigh perforator

CONTEXT GROUP 12111 – Abdominal Arteries (lateral)

236

Type: Extensible

Version: 20030327

**Context Group 12111
Abdominal Arteries (lateral)**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-46640	Accessory Renal Artery
SRT	T-46410	Gastric Artery
SRT	T-46421	Common Hepatic Artery
SRT	T-46980	Ovarian Artery
SRT	T-46970	Testicular Artery
SRT	T-88810	Umbilical Artery
SRT	T-46820	Uterine Artery

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CONTEXT GROUP 12112 – Abdominal Arteries (unilateral)

Type: Extensible

Version: 20030327

**Context Group 12112
Abdominal Arteries (unilateral)**

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Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-42000	Aorta
SRT	T-42520	Infra-renal Aorta
SRT	T-42510	Supra-renal Aorta
SRT	T-46400	Celiac Axis
SRT	T-46421	Common Hepatic artery
SRT	T-46710	Common Iliac Artery
SRT	T-46440	Gastroduodenal Artery
SRT	T-46520	Inferior Mesenteric Artery
SRT	T-46960	Lumbar Artery

SRT	T-46422	Proper Hepatic Artery
SRT	T-46460	Splenic artery
SRT	T-46510	Superior Mesenteric Artery

248 **CONTEXT GROUP 12113 – Abdominal Veins (lateral)**

Type: Extensible

Version: 20030327

**Context Group 12113
Abdominal Veins (lateral)**

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Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-48920	Common iliac vein
SRT	T-48820	Gastric vein
SRT	G-0370	Ileal vein
SRT	T-48780	Ovarian vein
SRT	T-48770	Testicular Vein
SRT	G-035E	First Lumbar Artery
SRT	G-035F	Second Lumbar Artery
SRT	G-0360	Third Lumbar Artery
SRT	G-0361	Fourth Lumbar Artery
SRT	G-0362	Fifth Lumbar Artery
SRT	G-0363	Sixth Lumbar Artery

CONTEXT GROUP 12114 – Abdominal Veins (unilateral)

256

Type: Extensible

Version: 20030327

**Context Group 12114
Abdominal Veins (unilateral)**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-48720	Hepatic Vein
SRT	G-036D	Inferior Right Hepatic Vein
SRT	T-48727	Left Hepatic Vein
SRT	T-48726	Middle Hepatic Vein

SRT	T-48725	Right Hepatic Vein
SRT	T-48810	Portal Vein
SRT	T-4881F	Left Main Branch of Portal Vein
SRT	T-4882A	Right Main Branch of Portal Vein
SRT	T-48910	Inferior Mesenteric Vein
SRT	T-48710	Inferior Vena Cava
SRT	T-48890	Splenic Vein
SRT	T-48840	Superior Mesenteric Vein
SRT	G-036C	Transjugular Intrahepatic Portosystemic Shunt
SRT	T-48817	Umbilical Vein

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CONTEXT GROUP 12115 – Renal Vessels

264 **Type: Extensible**

Version: 20030327

Context Group 12115

Renal Vessels

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT	T-46600	Renal Artery
SRT	G-035C	Hilar Artery
SRT	T-46659	Segmental Artery
SRT	T-4667C	Lobar Artery
SRT	T-4668A	Arcuate Artery of the Kidney
SRT	T-4667D	Interlobar Artery of Kidney
SRT	T-46640	Accessory Renal Artery
SRT	T-46668	Perforating Artery of Kidney
SRT	T-48740	Renal Vein

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CONTEXT GROUP 12116 – Vessel Segment Modifiers

This context group is the set of modifiers that specify the position along a vessel segment.

Type: Extensible

Version: 20030327

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**Context Group 12116
Vessel Segment Modifiers**

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT		G-A119	Distal
SRT		G-A188	Mid-longitudinal
SRT		G-036A	Origin of vessel
SRT		G-A118	Proximal

CONTEXT GROUP 12117 – Vessel Branch Modifiers

276 This context group is the set of modifiers to specify a particular vessel segment or branch.

Type: Extensible

Version: 20030327

**Context Group 12117
Vessel Branch Modifiers**

Coding Scheme Designator (0008,0102)	Coding Scheme Version (0008,0103)	Code Value (0008,0100)	Code Meaning (0008,0104)
SRT		G-035D	Collateral branch of vessel
SRT		G-A115	Inferior
SRT		G-A104	Lateral
SRT		G-A101	Left
SRT		G-A332	Main
SRT		G-A109	Medial
SRT		G-A100	Right
SRT		G-A116	Superior

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CONTEXT GROUP 12119 – Vascular Ultrasound Property

Type: Extensible

Version: 20030327

284

**Context Group 12119
Vascular Ultrasound Property**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
		Include CID 12120 Blood Velocity Measurements
		Include CID 12121 Vascular Indices and Ratios
		Include CID 12122 Other Vascular Properties

CONTEXT GROUP 12120 – Blood Velocity Measurements

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Type: Extensible

Version: 20030327

**Context Group 12120
Blood Velocity Measurements**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
LN	11653-3	End Diastolic Velocity
LN	11665-7	Minimum Diastolic Velocity
LN	11726-7	Peak Systolic Velocity
LN	20352-1	Time averaged mean velocity
LN	11692-1	Time averaged peak velocity

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CONTEXT GROUP 12121 – Vascular Indices and Ratios

Type: Extensible

Version: 20030327

**Context Group 12121
Vascular Indices and Ratios**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
LN	20167-3	Acceleration Index
SRT	G-0371	% Area Reduction
SRT	G-0372	% Diameter Reduction
LN	12008-9	Pulsatility Index
LN	12023-8	Resistivity Index
LN	12144-2	Systolic to Diastolic Velocity Ratio
LN	33867-3	Velocity ratio

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300 **CONTEXT GROUP 12122 – Other Vascular Properties**

Type: Extensible

Version: 20030327

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**Context Group 12122
Other Vascular Properties**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
LN	20168-1	Acceleration Time
LN	20217-6	Deceleration Time
SRT	G-0364	Vessel lumen diameter
SRT	G-0365	Vessel outside diameter
SRT	G-0366	Vessel lumen cross-sectional area
LN	33878-0	Volume flow

CONTEXT GROUP 12123 – Carotid Ratios

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Type: Extensible Version: 20030327

**Context Group 12123
Carotid Ratios**

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Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
LN	33868-1	ICA/CCA velocity ratio

CONTEXT GROUP 12124 – Renal Ratios

316

Type: Extensible Version: 20030327

**Context Group 12124
Renal Ratios**

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
LN	33869-9	Renal Artery/Aorta velocity ratio

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320 **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.

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Code Value	Code Meaning	Definition	Notes
125100	Vascular Ultrasound Procedure Report	Root Document Title for ultrasound vascular evidence reports (worksheets).	
125101	Vessel Branch	The particular vessel branch, such as the inferior, medial or lateral	
125102	Graft Type	A descriptor or elaboration of the type of graft	

Annex G English Code Meanings of Selected Codes

Coding Scheme Designator (0008,0102)	Coding Scheme Version	Code Value (0008,0100)	Code Meaning (0008,0104)
LN		11665-7	Minimum Diastolic Velocity
LN		11653-3	End Diastolic Velocity
LN		11692-1	Time averaged peak velocity
LN		20352-1	Time averaged mean velocity
LN		11726-7	Peak Velocity
			Peak Systolic Velocity
LN		12008-9	Pulsatility Index
LN		12023-8	Resistivity Index
LN		12144-2	Systolic to Diastolic Velocity Ratio
LN		20168-1	Acceleration time
LN		20217-6	Deceleration time
LN		20167-3	Acceleration Index
LN		33867-3	Velocity ratio
LN		33868-1	ICA/CCA velocity ratio

LN		33869-9	Renal Artery/Aorta velocity ratio
SRT		G-A188	Mid-Longitudinal
			Mid
SRT		T-45170	Carotid Bulb
			Carotid Sinus