

DICOM Conformance Statement

Software Version 3.0

Disclaimer:

These specifications are subject to change.

Unetixs Vascular Inc. reserves the right to change these specifications without prior notice.

1. Document History

Rev	Date	Author	Comments
1	05/12/03	R. Doehrmann	Created
1.1	09/10/2003	A. Castillo	Released
2.0	11/28/2005	A. Castillo	Added Worklist
3.0	11/28/2019	A. Castillo	Added SR

2. Introduction

This document defines the DICOM conformance of Unetixs Vascular Inc. MultiLab Series II equipped with DICOM. This DICOM Conformance Statement is not intended as a complete product specification.

2.1. Source of Information

ACR-NEMA Digital Imaging and Communications in Medicine, DICOM V3.0, 2001

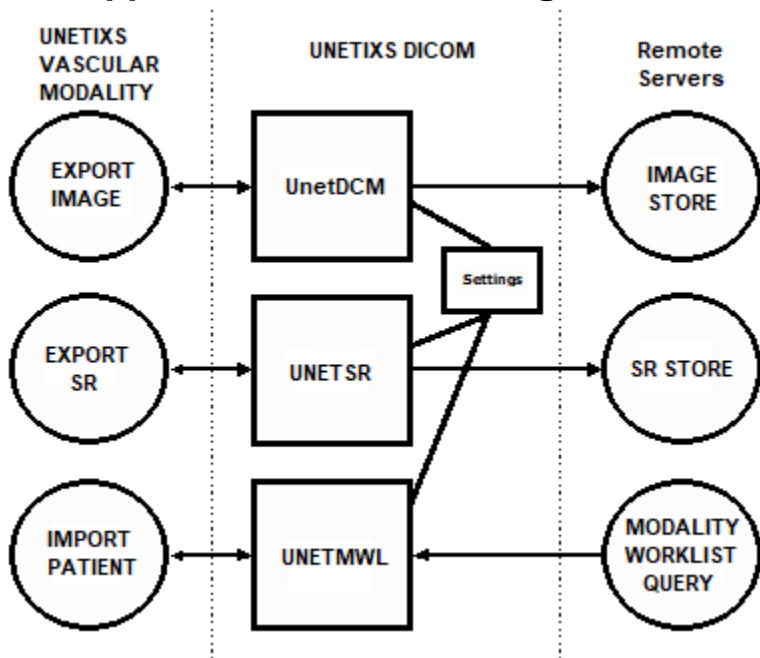
2.2. Acronyms and Abbreviations

ACR	American College of Radiology
AE	Application Entity
ANSI	American National Standards Institute
DICOM	Digital Imaging and Communication in Medicine
NEMA	National Electrical Manufacturers Association
PDU	Protocol Data Unit
SCP	Service Class Provider (server)
SCU	Service Class User (client)
TCP/IP	Transmission Control Protocol/Internet Protocol
SOP	Service Object Pair
UID	Unique Identification

3. Implementation Model

The DICOM system consists of four executable applications – one to configure system settings, another to handle image transfers, another to query the worklist, and another to handle SR transfers.

3.1. Application Data Flow Diagram



3.2. Functional Definitions of AE

3.2.1. Network Storage AE

The Series II software sends images to the host via the UNETDCM application.

The UNETDicom configuration application is used to configure network options. Options include the SCP's AE title, IP address, port number, and timeout. A more complete description of these configurable items is defined in Section 8 of this document. Up to 5 SCPs can be specified. The SCPs will be tried sequentially by UNETDCM for each image.

Transfer is initiated from the Series II software Export screen by selecting either "Export Page", "Export Patient", or "Export All". Each Image is transmitted using the C-STORE standard. UNETDCM provides feedback to the user indicating send status. Feedback will indicate a successful image transfer or error message. The local patient information generating the images is not deleted by UNETDCM. It is the responsibility of the user to archive studies after the image transfer is complete.

3.2.2. Modality Worklist AE

The Series II software queries the worklist via the UNETMWL application.

The UNETDicom configuration application is used to configure network options. Options include the SCP's AE title, IP address, and port number. The timeout is always 60 seconds. Up to 5 SCPs can be specified. The SCPs will be tried sequentially and the first 50 matches from the first successful query will be presented to the user.

3.2.3. Network SR Storage AE

The Series II software sends Structured Report to the host via the UNETSR application.

The UNETDicom configuration application is used to configure network options. Options include the SCP's AE title, IP address, port number, and timeout. A more complete description of these configurable items is defined in Section 8 of this document. Up to 5 SCPs can be specified. The SCPs will be tried sequentially by UNETSR for each report.

Transfer is initiated from the Series II software Export screen by selecting either “Export Page”, “Export Patient”, or “Export All”. SR is only sent if the Series II software is configured to send SR via the EXPORT CODE setting. Each Report is transmitted using the C-STORE standard. UNETSR provides feedback to the user indicating send status. Feedback will indicate a successful report transfer or error message. The local patient information generating the report is not deleted by UNETSR. It is the responsibility of the user to archive studies after the report transfer is complete.

3.3. Sequencing of Real World Activities

The system is configured with SCP and SCU information.

A worklist query is performed, and a patient is selected from the matches.

Study(s) are completed, using the selected patient information prior to transfer initiation.

Image(s) are transferred to the SCP. Transfer syntaxes are negotiated each time an image is transferred.

A study may be transmitted or re-transmitted to the SCP as needed. Once the study is archived it is no longer available for transfer.

Reports(s) are transferred to the SCP.

A report may be transmitted or re-transmitted to the SCP as needed. Once the study is archived it is no longer available for transfer.

4. Network Transfer Specifications

4.1 AE Specification

The Network Storage AE conforms to DICOM V3.0 SOP Classes as an SCU.

The Modality Worklist AE conforms to DICOM V3.0 SOP Classes as an SCU.

The Network SR Storage AE conforms to DICOM V3.0 SOP Classes as an SCU.

SOP Class Name	SOP Class UID	Role
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	SCU
Modality Worklist Information Model	1.2.840.10008.5.1.4.31	SCU
Comprehensive Structured Report Storage	1.2.840.10008.5.1.4.1.1.88.33	SCU

4.2. Association Establishment Policies

4.2.1. General

Maximum PDU size is configurable from 16k to 64k for image transfers; it is fixed at 16k for worklist.

4.2.2. Number of Associations

Image transfer utilizes one association (for each SCP and each image/report) at a time for network storage. Worklist also utilizes only one association. Images and reports are also not sent at the same time. Since worklist and image/report transfer cannot be used at the same time, the overall system will only ever have one association open at any time.

4.2.3. Asynchronous Nature

Outstanding transactions are not supported. Image transfer failures are addressed by the user and may be re-sent at any time before the study is archived. Worklist will only send a single C-FIND request per association.

4.2.4. Implementation Identifying Information

Implementation Class UID is 1.2.840.114347.1.MID.2.0.VER where MID is unique for every machine and VER is the software version (x.x). The Implementation Version Name is “UNETIXS DICOM”

4.3. Association Initiation Policy

Implementation attempts to establish an association only when user requests a query or when the user initiates an image transfer.

4.3.1 Configure Network

The configuration application does not require associations. The local TCP stack is handled by the resident Windows OS.

4.3.1. Proposed Presentation Context

Abstract Syntax		Transfer Syntax	
Name	UID	Name List	UID List
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Big Endian	1.2.840.10008.1.2.2
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian: Run-Length Encoding of pixel data	1.2.840.10008.1.2.5
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian: Baseline JPEG encoding of pixel data	1.2.840.10008.1.2.4.50
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian: Extended JPEG encoding of pixel data	1.2.840.10008.1.2.4.51
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian: Lossless JPEG encoding of pixel data	1.2.840.10008.1.2.4.57
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian: Lossless JPEG encoding of pixel data (psv=1)	1.2.840.10008.1.2.4.70
Comprehensive Structured Report Storage	1.2.840.10008.5.1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2

UNETDCM attempts to establish a connection with the SCP until the time-out has expired. If successful, an association for the Image SOP Class is established and the SCP the transfer begins.

UNETSR attempts to establish a connection with the SCP until the time-out has expired. If successful, an association for the Report SOP Class is established and the SCP the transfer begins.

4.3.2. SOP Specific Conformance of SCU

For each image/report requested to be sent, when a C-STORE response fails, any other SCPs are tried for that image/report. Any C-STORE failure alerts the user after all SCPs and all images are tried. The study files needed to generate the image/report are not deleted and all images/reports are available for re-send if necessary. No extended negotiation is attempted.

When a worklist query is initiated, all SCPs are tried until a successful query is performed. Then the first 50 matches are shown to the user. Queries are configurable via a “global query” text file that affects all queries performed on the system (this text file also specifies requested attributes). The system also has 3 configurable query buttons that can add specific restrictions as configured in a “button configuration” text file. Worklist DICOM tag data from a selected matching query can be mapped via a “Tag Mapping” text file to three output locations: an info screen as part of the matching query selection, any C-STOREd images, and the MultiLab’s own standard import area. Note that a standard set of “text” files are provided to ensure standard DICOM compliance, but non-standard configurations are possible.

4.3.2.1. Storage SOP Class: Photometric Interpretation

Photometric Interpretation, i.e., color mode of the pixel image data, is not a negotiable parameter in DICOM 3.0. This implementation lets the user configure the images to be exported as grayscale or color images through settings for Photometric Interpretation and Reduction.

Image Color	Image size	Photometric Interpretation	Bits/pixel
Black & White	All sizes	MONOCHROME2	8
Black & White	All sizes	PALLETTE COLOR	8
Color	All sizes	RGB	24
Color	50%	PALETTE COLOR	8
Color	100%	PALETTE COLOR	8

4.4. Association Acceptance Policy

No associations are accepted by any AE.

4.5. Communication Profile

This implementation uses the TCP/IP Protocol stack of the underlying Windows operating system and thus is independent of the physical interface.

5. Removable Media Interchange Specifications

This implementation does not support any removable media.

6. Unique Identification Information

UNETDCM and UNETSR support the creation (when worklist is unavailable) of Study Instance UID, Series Instance UID and SOP Instance UID (DICOM elements (0020, 000D), (0020, 000E) and (0008, 0018) respectively) in the IOD.

Unetixs UID root is 1.2.840.114347

The Study Instance UID is composed using the following convention:

1.2.840.114347.p.m.d

where

p = is the product number (1 for this implementation)

m = is the unique machine number (assigned at installation)

d = is the encoding of the current date and time

7. Extensions, Specializations and Privatizations

None applicable, but there is the ability to customize the inputs and outputs of the systems through the editing of configuration text files.

8. Configuration

The UNETDicom configuration application is a simple Windows interface which sets parameters for remote and local DICOM Application Entities. The parameters are:

Local AE Title (for DICOM SCU)

Called AE Title (for a remote SCP)

TCP port number (for a remote SCP)

IP address or host name (for a remote host where the remote SCP resides)□

PDU Size (16k to 64k)

Timeout for response from SCP

Transfer Syntax both what is offered and in what order (see 4.3.1)

Photometric Interpretation for image output type (see 4.3.2.1)

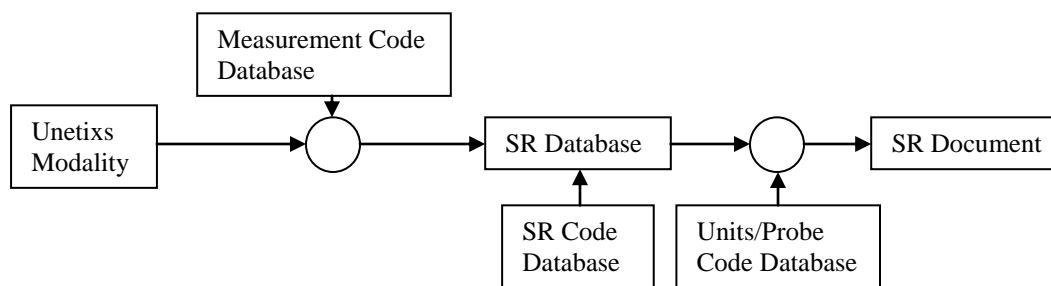
Reduction of image pixels (100% - 2400 by 3150, 50% - 1200 by 1575, 33% - 800 by 1050, 25% - 600 by 788.

Combine Content for structured report output when it is desired to have a single report for multiple images.

9. Support of Extended Character Sets

The ISO IR 100 specific Character Set is supported.

10. Structured Report Output Format



As of printing, there is still no content mapping template for peripheral vascular measurements in the standard. As such the SR output format is configurable using built-in database editors. The Measurement Code database exposes an agreement between the Modality's configuration and the SR database. The SR Code database contains the codes (Snomed-RT and private [99Unetixs]) used by the SR database. The Units/Probe Code database contains the default measurement units and modalities (used by the Modality) for the SR Document. The SR Database contains a full SR document for every measurement; so even if only a single measurement is performed, a report can be generated. The SR currently supports the following types of measurements: Systolic Pressures, Indices, Temperature, PVR Cuff Pressure, and PVR Cuff Volume.

10.1. Default SR Output Format (Sample of default SR Database)

```
CONTAINER:(125100,DCM,"Vascular Ultrasound Procedure Report")=SEPARATE
has obs context CODE:(121005,DCM,"Observer Type")=(121007,DCM,"Device")
has obs context UIDREF:(121012,DCM,"Device Observer UID")="1.2.840.114347.1...
has obs context TEXT:(121014,DCM,"Device Observer Manufacturer")="Unetixs Vascular"
has obs context TEXT:(121015,DCM,"Device Observer Model Name")="Multilab Series 2"
contains CONTAINER:(121070,DCM,"Findings")=SEPARATE
  has concept mod CODE:(G-C0E3,SRT,"Finding Site")=(T-47040,SRT,"Artery of Lower Extremity")
  has concept mod CODE:(G-C171,SRT,"Laterality")=(G-A101,SRT,"Left")
  contains CONTAINER:(T-15750,SRT,"Ankle joint")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="1.11" ({ratio},UCUM,"ratio")
  has concept mod CODE:(121425,DCM,"Index")=(12,99Unetixs,"highest index")
  contains CONTAINER:(T-47741,SRT,"Dorsalis Pedis Artery")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="69" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B011A,SRT,"Bidirectional Continuous Wave Ultrasonic
    Doppler")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="0.65" ({ratio},UCUM,"ratio")
  has concept mod CODE:(121425,DCM,"Index")=(9,99Unetixs,"highest brachial")
  contains CONTAINER:(T-47600,SRT,"Posterior Tibial Artery")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="118" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B011A,SRT,"Bidirectional Continuous Wave Ultrasonic
    Doppler")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="1.11" ({ratio},UCUM,"ratio")
  <has concept mod CODE:(121425,DCM,"Index")=(9,99Unetixs,"highest brachial")
  contains CONTAINER:(T-D9810,SRT,"Great toe")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="65" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B0520,SRT,"Photoplethysmography")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="0.61" ({ratio},UCUM,"ratio")
  has concept mod CODE:(121425,DCM,"Index")=(9,99Unetixs,"highest brachial")
contains CONTAINER:(121070,DCM,"Findings")=SEPARATE
  has concept mod CODE:(G-C0E3,SRT,"Finding Site")=(T-47040,SRT,"Artery of Lower Extremity")
  has concept mod CODE:(G-C171,SRT,"Laterality")=(G-A100,SRT,"Right")
  contains CONTAINER:(T-15750,SRT,"Ankle joint")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="1.83" ({ratio},UCUM,"ratio")
  has concept mod CODE:(121425,DCM,"Index")=(12,99Unetixs,"highest index")
  contains CONTAINER:(T-47741,SRT,"Dorsalis Pedis Artery")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="151" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B011A,SRT,"Bidirectional Continuous Wave Ultrasonic
    Doppler")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="1.42" ({ratio},UCUM,"ratio")
  has concept mod CODE:(121425,DCM,"Index")=(9,99Unetixs,"highest brachial")
  contains CONTAINER:(T-47600,SRT,"Posterior Tibial Artery")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="194" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B011A,SRT,"Bidirectional Continuous Wave Ultrasonic
    Doppler")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="1.83" ({ratio},UCUM,"ratio")
  has concept mod CODE:(121425,DCM,"Index")=(9,99Unetixs,"highest brachial")
  contains CONTAINER:(T-D9810,SRT,"Great toe")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="65" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B0520,SRT,"Photoplethysmography")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
  contains NUM:(8,99Unetixs,"Pressure/brachial index")="0.61" ({ratio},UCUM,"ratio")
  has concept mod CODE:(121425,DCM,"Index")=(9,99Unetixs,"highest brachial")
contains CONTAINER:(121070,DCM,"Findings")=SEPARATE
  has concept mod CODE:(G-C0E3,SRT,"Finding Site")=(T-47020,SRT,"Artery of Upper Extremity")
  has concept mod CODE:(G-C171,SRT,"Laterality")=(G-A101,SRT,"Left")
  contains CONTAINER:(T-47160,SRT,"Brachial Artery")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="106" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B011A,SRT,"Bidirectional Continuous Wave Ultrasonic
    Doppler")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
contains CONTAINER:(121070,DCM,"Findings")=SEPARATE
  has concept mod CODE:(G-C0E3,SRT,"Finding Site")=(T-47020,SRT,"Artery of Upper Extremity")
  has concept mod CODE:(G-C171,SRT,"Laterality")=(G-A100,SRT,"Right")
  contains CONTAINER:(T-47160,SRT,"Brachial Artery")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
  contains NUM:(F-008EC,SRT,"systolic Blood Pressure")="56" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B011A,SRT,"Bidirectional Continuous Wave Ultrasonic
    Doppler")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
```

* - Indicates optional items when Patient State is resting. To always include resting state, select the "McKesson" database.

10.2. Codes Used (SR code database)

As of printing, the SRT codes have been deprecated in the DICOM standard and replaced with SCT codes. If SCT codes are preferred, select the SCT code database.

CODE MEANING	CODE	SCHEME	VERSION
Vascular Ultrasound Procedure Report	125100	DCM	
DICOM Template ID: 5100 Vascular Ultrasound Report	5100	DCMR	
Observer Type	121005	DCM	
Device	121007	DCM	
Device Observer UID	121012	DCM	
Device Observer Manufacturer	121014	DCM	
Device Observer Model Name	121015	DCM	
Device Observer Serial Number	121016	DCM	
DICOM Template ID: 5103 Vascular Ultrasound Section	5103	DCMR	
DICOM Template ID: 5104 Vascular Ultrasound Measurement Group	5104	DCMR	
Findings	121070	DCM	
Finding Site	G-C0E3	SRT	
Artery of Lower Extremity	T-47040	SRT	
Artery of Upper Extremity	T-47020	SRT	
Laterality	G-C171	SRT	
Left	G-A101	SRT	
Right	G-A100	SRT	
Systolic Blood Pressure	F-008EC	SRT	
mmHg	mm[Hg]	UCUM	1.4
Body temperature	8310-5	LN	
degrees Celsius	Cel	UCUM	1.4
Volume	G-D705	SRT	
cubic centimeter	cm3	UCUM	
Index	121425	DCM	
Ratio	{ratio}	UCUM	
Modality	121139	DCM	
PVR - Pulse Volume Recorder pneumoplethysmography	P5-B0517	SRT	
Bidirectional Continuous Wave Ultrasonic Doppler	P5-B011A	SRT	
Photoplethysmography	P5-B0520	SRT	
Infrared thermometry	P5-3200A	SRT	
Pressure/brachial index	8	99Unetixs	
highest brachial	9	99Unetixs	
ipsilateral brachial	10	99Unetixs	
post brachial	11	99Unetixs	
highest index	12	99Unetixs	
Measurement Method	G-C036	SRT	
Blood pressure cuff method	R-00318	SRT	
Patient State	109054	DCM	
Resting state	F-01604	SRT	
Post-exercise state	F-01608	SRT	
Injection of thrombin into pseudoaneurysm of extremity	P0-0603D	SRT	
Pre-cold immersion	13	99Unetixs	
Post-cold immersion	14	99Unetixs	
Pre-fistula compression	15	99Unetixs	
Fistula compression	16	99Unetixs	

CODE MEANING	CODE	SCHEME	VERSION
Topographical Modifier	G-A1F8	SRT	
Proximal	G-A118	SRT	
Distal	G-A119	SRT	
Relative Time	G-D709	SRT	
Immediate	1	99Unetixs	
Period 1	2	99Unetixs	
Period 2	3	99Unetixs	
Period 3	4	99Unetixs	
Period 4	5	99Unetixs	
Period 5	6	99Unetixs	
Posterior Tibial Artery	T-47600	SRT	
Dorsalis Pedis Artery	T-47741	SRT	
Brachial Artery	T-47160	SRT	
Ankle joint	T-15750	SRT	
Wrist joint	T-15460	SRT	
Radial Artery	T-47300	SRT	
Ulnar Artery	T-47200	SRT	
Thigh	T-D9100	SRT	
Calf of leg	T-D9440	SRT	
Thumb	T-D8810	SRT	
Index finger	T-D8820	SRT	
Middle finger	T-D8830	SRT	
Ring finger	T-D8840	SRT	
Little finger	T-D8850	SRT	
Great toe	T-D9810	SRT	
Second toe	T-D9820	SRT	
Third toe	T-D9830	SRT	
Fourth toe	T-D9840	SRT	
Fifth toe	T-D9850	SRT	
Upper arm	T-D8200	SRT	
Forearm	T-D8500	SRT	
Penis	T-91000	SRT	
Peroneal artery	T-47630	SRT	
Anterior tibial artery	T-47700	SRT	
Metatarsus	T-12847	SRT	
Toe	T-D9800	SRT	
Finger	T-D8800	SRT	
Cavernosal Artery	7	99Unetixs	

10.3. Non-compressible vessels

When a vessel is non compressible, or there is an amputee, the technologist will enter text instead of a pressure. This will change the pressure's output. Below is a sample output, note the "N/C" on the last line.

```
contains CONTAINER:(121070,DCM,"Findings")=SEPARATE
  has concept mod CODE:(G-C0E3,SRT,"Finding Site")=(T-47020,SRT,"Artery of Upper Extremity")
  has concept mod CODE:(G-C171,SRT,"Laterality")=(G-A101,SRT,"Left")
  contains CONTAINER:(T-47160,SRT,"Brachial Artery")=SEPARATE
*   has concept mod CODE:(109054,DCM,"Patient State")=(F-01604,SRT,"Resting state")
    contains TEXT:(F-008EC,SRT,"Systolic Blood Pressure")="N/C"
```

* - Indicates optional item when Patient State is resting. To always include resting state, select the "McKesson" database.

10.4. Post Exercise pressures

When a post exercise pressure is sent, a patient state and a relative time are given as concept modifiers.

```
contains CONTAINER:(121070,DCM,"Findings")=SEPARATE
  has concept mod CODE:(G-C0E3,SRT,"Finding Site")=(T-47040,SRT,"Artery of Lower Extremity")
  has concept mod CODE:(G-C171,SRT,"Laterality")=(G-A101,SRT,"Left")
contains CONTAINER:(T-15750,SRT,"Ankle joint")=SEPARATE
  has concept mod CODE:(109054,DCM,"Patient State")=(F-01608,SRT,"Post-exercise state")
  has concept mod CODE:(G-D709,SRT,"Relative Time")=(1,99Unetixs,"Immediate")
contains NUM:(F-008EC,SRT,"Systolic Blood Pressure")="199" (mm[Hg],UCUM[1.4],"mmHg")
  has concept mod CODE:(121139,DCM,"Modality")=(P5-B011A,SRT,"Bidirectional Continuous Wave Ultrasonic Doppler")
  has concept mod CODE:(G-C036,SRT,"Measurement Method")=(R-00318,SRT,"Blood pressure cuff method")
```