Mac-Lab Hemo System

Imported Data Elements

Effective date	2021-04-26
Device interface version	8.0
Document version	1

Table of Contents

Introduction

The Mac-Lab Hemo system data elements that are supported for import into ASCEND are listed in the following tables.

Scope of Mac-Lab import

Patient demographics, fluoroscopy

Patient demographics

Seg	OBR phase name	OBX type	Report finding
PID	*N/A*	*N/A*	Race (disabled by default)
PID	*N/A*	*N/A*	Date of birth (disabled by default)
OBX	Patient Demographics	PT-SEX	Gender (disabled by default)
OBX	Patient Demographics	PT-AGE	Age (disabled by default)
OBX	Patient Demographics	PT-HT-CM	Height
OBX	Patient Demographics	PT-WT-KG	Weight
OBX	Patient Demographics	PT-BSA	BSA (disabled by default)

Fluoroscopy, radiation

Seg	OBR phase name	OBX type	Report finding
OBX	XRay Summary	XRAY-FLTIME	Fluoroscopy time
OBX	XRay Summary	XRAY-DIAGFLTIME	Diagnostic fluoroscopy time
OBX	XRay Summary	XRAY-INTFLTIME	Interventional fluoroscopy time
OBX	XRay Summary	XRAY-FLDOSE	Fluoroscopy dose
OBX	XRay Summary	XRAY-CINEDOSE	Cine dose
OBX	XRay Summary	XRAY-TOTDOSE	Total dose

Other, miscellaneous

Seg	OBR phase name	OBX type	Report finding
OBX	*Any*	Event_Vitals	Heart rate

Lab Results

Blood Lab Results

Seg	OBX type	Qualifier	Report finding
OBX	EVENT	Creatinine=	Creatinine (mg/dl)
OBX	EVENT	BUN=	BUN (mg/dl)
OBX	EVENT	Hemoglobin=	Hemoglobin (g/dl)
OBX	EVENT	Platelets=	Platelets (th/ul)
OBX	EVENT	INR=	INR
OBX	EVENT	Potassium=	Potassium (meq/L)
OBX	EVENT	PT	PT (sec)
OBX	EVENT	Sodium	Sodium (mEq/l)

Hemo Measurements

Hemodynamics import to "Circulatory function table"

Seg	OBX type	Qualifier	Report finding
OBX	Event_CathPressure	AO	Arterial pressure systole
OBX	Event_CathPressure	AO	Arterial pressure diastole
OBX	Event_CathPressure	AO	Arterial pressure mean
OBX	Event_CathPressure	ASAO	Arterial pressure systole
OBX	Event_CathPressure	ASAO	Arterial pressure diastole
OBX	Event_CathPressure	ASAO	Arterial pressure mean
OBX	Event_CathPressure	LV	LV pressure systole
OBX	Event_CathPressure	LV	LV pressure end diastole
OBX	Event_CathPressure	LA	LA pressure A wave
OBX	Event_CathPressure	LA	LA pressure V wave
OBX	Event_CathPressure	LA	LA pressure mean
OBX	Event_CathPressure	RA	RA pressure A wave
OBX	Event_CathPressure	RA	RA pressure V wave
OBX	Event_CathPressure	RA	RA pressure mean
OBX	Event_CathPressure	RV	RV pressure systole
OBX	Event_CathPressure	RV	RV pressure diastole
OBX	Event_CathPressure	PA	PA pressure systole
OBX	Event_CathPressure	PA	PA pressure diastole
OBX	Event_CathPressure	PCW	PA wedge pressure a wave
OBX	Event_CathPressure	PCW	PA wedge pressure v wave
OBX	Event_CathPressure	PCW	PA wedge pressure mean
OBX	Event_CathPressure	PA	PA pressure mean
OBX	Event_O2Sat	SVC	SVC saturation
OBX	Event_O2Sat	IVC	IVC saturation
OBX	Event_O2Sat	RA	RA saturation
OBX	Event_O2Sat	RV	RV saturation
OBX	Event_O2Sat	PA	PA saturation
OBX	Event_O2Sat	PV	Pulmonary vein saturation
OBX	Event_O2Sat	PCW	Pulmonary vein saturation
OBX	Event_O2Sat	AO	Systemic artery saturation
OBX	HemoMeas_General	VO2	O2 consumption
OBX	HemoMeas_General	VO2I	O2 consumption index
OBX	Event_O2Sat	*any*	Hemoglobin
OBX	HemoMeas_General	STROKEV	Stroke volume (no example)
OBX	Event_CathPressure	SVC	SVC mean pressure

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Seg	OBX type	Qualifier	Report finding
OBX	HemoMeas_General	SVR_DSC	SVR
OBX	HemoMeas_General	SVRI_DSC	SVRI
OBX	HemoMeas_General	PVR_DSC	PVR
OBX	HemoMeas_General	PVRI_DSC	PVRI
OBX	HemoMeas_General	QS	Cardiac output
OBX	HemoMeas_General	QSI	Cardiac output index
OBX	HemoMeas_General	FICKCO	Cardiac output
OBX	HemoMeas_General	FICKCI	Cardiac output index
OBX	HemoMeas_General	TDCO	Cardiac output
OBX	HemoMeas_General	TDCI	Cardiac output index
OBX	HemoMeas_General	QP	Pulmonic output
OBX	HemoMeas_General	QPI	Pulmonic output index
OBX	HemoMeas_General	QPQS_RATIO	Qp/Qs
OBX	HemoMeas_General	RLFLOW	Shunt R to L
OBX	HemoMeas_General	LRFLOW	Shunt L to R

Hemodynamics import to "Valve tables"

Seg	OBX type	Qualifier value	Report finding
OBX	HemoMeas_General	AV_AREA	Valve area
OBX	HemoMeas_General	AV_NDX	Valve area index
OBX	HemoMeas_General	AV_SEP	Systolic ejection time
OBX	HemoMeas_General	MV_AREA	Valve area
OBX	HemoMeas_General	MV_NDX	Valve area index
OBX	HemoMeas_General	MV_DFP	Diastolic filling time
OBX	HemoMeas_General	PV_AREA	Valve area
OBX	HemoMeas_General	PV_NDX	Valve area index
OBX	HemoMeas_General	PV_SEP	Systolic ejection time
OBX	HemoMeas_General	TV_AREA	Valve area
OBX	HemoMeas_General	TV_NDX	Valve area index
OBX	HemoMeas_General	TV_DFP	Diastolic filling time
OBX	Event_ValveAreaAnalysis	Aortic	Cardiac output (OBX 5.19)
OBX	Event_ValveAreaAnalysis	Aortic	Mean gradient (OBX 5.19)
OBX	Event_PPGradient	Aortic	Peak-peak gradient (OBX 5.11)
OBX	Event_ValveAreaAnalysis	Aortic	R-R interval (OBX 5.17)
OBX	Event_ValveAreaAnalysis	Mitral	Cardiac output (OBX 5.19)
OBX	Event_ValveAreaAnalysis	Mitral	Mean gradient (OBX 5.19)
OBX	Event_ValveAreaAnalysis	Mitral	R-R interval (OBX 5.17)
OBX	Event_PPGradient	Mitral	Peak-peak gradient (OBX 5.11)
OBX	Event_ValveAreaAnalysis	Tricuspid	Cardiac output (OBX 5.19)
OBX	Event_ValveAreaAnalysis	Tricuspid	Mean gradient (OBX 5.19)
OBX	Event_PPGradient	Tricuspid	Peak-peak gradient (OBX 5.11)
OBX	Event_ValveAreaAnalysis	Tricuspid	R-R interval (OBX 5.17)
OBX	Event_ValveAreaAnalysis	Mitral	Cardiac output (OBX 5.19)
OBX	Event_ValveAreaAnalysis	Mitral	Mean gradient (OBX 5.19)
OBX	Event_ValveAreaAnalysis	Mitral	R-R interval (OBX 5.17)
OBX	Event_PPGradient	Mitral	Peak-peak gradient (OBX 5.11)

Lesions

Lesion attributes

Seg	OBX type	Qualifier	Report finding
OBX	Event_Intervention_Lesion		Stenosis %
OBX	Event_Intervention_Lesion		Residual stenosis
OBX	Event_Intervention_Lesion	No	No Dissection
OBX	Event_Intervention_Lesion	Yes	Significant dissection
OBX	Event_Intervention_Lesion	No	No acute closure
OBX	Event_Intervention_Lesion	Yes	Acute closure
OBX	Event_Intervention_Lesion	No	not reopened
OBX	Event_Intervention_Lesion	Yes	reopened
OBX	Event_Intervention_Lesion	No	No perforation
OBX	Event_Intervention_Lesion	Yes	Perforation
OBX	Event_Intervention_Lesion		TIMI Initial (0-3)
OBX	Event_Intervention_Lesion		TIMI Post intervention (0-3)
OBX	Event_Intervention_Lesion		ACC lesion risk (A-C)

Coronary artery sites

pRCA	pCIRC
mRCA	mCIRC
dRCA	dCIRC
rPDA	1st OM
rPAV	Lat 1st OM
1st RPL	2nd OM
2nd RPL	Lat 2nd OM
3rd RPL	3rd OM
pDSP	Lat 3rd OM
aMarg	CIRC AV
LM	1st LPL
pLAD	2nd LPL
mLAD	3rd LPL
dLAD	LPDA
1st Diag	Ramus
Lat 1st Diag	Lat Ramus
2nd Diag	3rd Diag
Lat 2nd Diag	Lat 3rd Diag
LAD SP	

Coronary graft sites

prox RCA	mid LCx
mid RCA	distal LCx
distal RCA	D1
RPDA	D2
RPL1	OM1
RPL2	OM2
RPL3	OM3
LM	LPL1
prox LAD	LPL2
mid LAD	LPL3
distal LAD	Ramus
prox LCx	D3

Coronary graft types

Free LIMA
Free RIMA
SVG
Free Radial
Gastroepiploic
Seq SVG

Location in graft

Prox Anastamosis
Prox 1/3
Mid 1/3
Distal 1/3
Distal Anastamosis

Coronary graft origin sites

Ao

Vascular interventions

Seg	OBX type	Qualifier	Report finding
OBX	Event_Intervention_Treatment	Balloon	Balloon
OBX	Event_Intervention_Treatment	Cutting Balloon	Cutting Balloon
OBX	Event_Intervention_Treatment	DCA	DCA
OBX	Event_Intervention_Treatment	Rotational Atherectomy	Rotational atherectomy
OBX	Event_Intervention_Treatment	AngioJet	Thrombectomy
OBX	Event_Intervention_Treatment	TEC	Transluminal extraction atherectomy
OBX	Event_Intervention_Treatment	Laser	Laser atherectomy
OBX	Event_Intervention_Treatment	IVUS	Interventional IVUS
OBX	Event_Intervention_Treatment	Flowire	Doppler flow reserve
OBX	Event_Intervention_Treatment	Pressure Wire	Pressure flow reserve
OBX	Event_Intervention_Treatment	Bare Metal Stent	Stent placement – bare metal
OBX	Event_Intervention_Treatment	Heparin Coated Stent	Stent placement – Heparin coated
OBX	Event_Intervention_Treatment	Covered Stent	Stent placement - Covered
OBX	Event_Intervention_Treatment	Drug Eluting Stent	Stent placement – Drug eluting
OBX	Event_Intervention_Treatment	Sirolimus-Eluting Stent	Stent placement – Siroliumus eluting
OBX	Event_Intervention_Treatment	Paclitaxel-Eluting Stent	Stent placement – Paclitaxel eluting
OBX	Event_Intervention_Treatment	Everolimus-Eluting Stent	Stent placement – Everolimus eluting
OBX	Event_Intervention_Treatment	Tacrolimus-Eluting Stent	Stent placement – Tacrolimus eluting
OBX	Event_Intervention_Treatment	Zotarolimus-Eluting Stent	Stent placement – Zotarolimus eluting
OBX	Event_Intervention_Treatment	Beta Brachytherapy	Brachytherapy
OBX	Event_Intervention_Treatment	Distal Embolic Protection	Embolic Protection

Successful outcome for interventions

Seg	OBX type	Qualifier	Report finding
OBX	Event_Intervention_Treatment	Yes	Procedure performed (checkbox checked)
OBX	Event_Intervention_Treatment	No	(Procedure performed checkbox not populated / unchecked)

Procedure import

Procedural step macros

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
L Brachial artery access	Left brachial artery access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique.	{Acc.A.Brach.L}	QR.ML.Acc.A.Brach.L
R Brachial artery access	Right brachial artery access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A catheter was inserted into the vessel.	{Acc.A.Brach.R}	QR.ML.Acc.A.Brach.R
L Femoral artery access	Left femoral artery access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel and used for catheter placement.	{Acc.A.Fem.L}	QR.ML.Acc.A.Fem.L
R Femoral artery access	Right femoral artery access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel and used for catheter placement.	{Acc.A.Fem.R}	QR.ML.Acc.A.Fem.R
L Radial artery access	Left radial artery access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A 20 gauge angiocath catheter was inserted into the vessel.	{Acc.A.Rad.L}	QR.ML.Acc.A.Rad.L
R Radial artery access	Right radial artery access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A 20 gauge angiocath catheter was inserted into the vessel.	{Acc.A.Rad.R}	QR.ML.Acc.A.Rad.R
Arterial access	Arterial access was obtained.	{Acc.A}	QR.ML.Acc.A
Micropuncture Used	Vascular access was obtained. The vessel was cannulated with a Micro needle.	{Acc.Micro}	QR.ML.Acc.Micro
Transseptal puncture	Transseptal catheterization was performed.	{Acc.Septal}	QR.ML.Acc.Septal
Sheath Insertion	Vascular access was obtained. A sheath was advanced into the vessel.	{Acc.Sheath}	QR.ML.Acc.Sheath
Ultrasound guided access	Vascular access was obtained. The vessel was cannulated with ultrasound guidance.	{Acc.US}	QR.ML.Acc.US
L Brachial vein access	Left brachial vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel.	{Acc.V.Brach.L}	QR.ML.Acc.V.Brach.L
R Brachial vein access	Right brachial vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel.	{Acc.V.Brach.R}	QR.ML.Acc.V.Brach.R

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
L Femoral vein access	Left femoral vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel.	{Acc.V.Fem.L}	QR.ML.Acc.V.Fem.L
R Femoral vein access	Right femoral vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel and used for intravenous fluid administration and catheter placement.	{Acc.V.Fem.R}	QR.ML.Acc.V.Fem.R
L Internal Jugular vein access	Left internal jugular vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel and used for catheter placement.	{Acc.V.IJ.L}	QR.ML.Acc.V.IJ.L
R Internal Jugular vein access	Right internal jugular vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel and used for catheter placement.	{Acc.V.IJ.R}	QR.ML.Acc.V.IJ.R
Contrast Injected for L Subclav access	Left subclavian vein access was obtained. The vessel was cannulated with visualization by radiocontrast dye infusion.	{Acc.V.SC.L.Ctr}	QR.ML.Acc.V.SC.L.Ctr
L Subclavian vein access	Left subclavian vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel.	{Acc.V.SC.L}	QR.ML.Acc.V.SC.L
R Subclavian vein access	Right subclavian vein access was obtained. The access site was infiltrated with 2% lidocaine. The vessel was cannulated using the modified Seldinger technique. A sheath was advanced into the vessel and used for catheter placement.	{Acc.V.SC.R}	QR.ML.Acc.V.SC.R
Access Obtained	Vascular access was obtained.	{Acc}	QR.ML.Acc
Sedation Provided by Anesthesia	General anesthesia was administered by anesthesiology staff.	{Anesthesia}	QR.ML.Anesthesia
L Anterior Tibial Angio	Peripheral angiography was performed. The catheter was introduced to the left anterior tibial, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.AntTib.L}	QR.ML.Angio.AntTib.L
R Anterior Tibial Angio	Peripheral angiography was performed. The catheter was introduced to the right anterior tibial, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.AntTib.R}	QR.ML.Angio.AntTib.R
Abdomen Runoff	Aortography was performed. A catheter was introduced and advanced into the aorta. With the catheter in the abdominal aorta, contrast was injected. Aortic and run-off images were obtained.	{Angio.Ao.Abd.RO}	QR.ML.Angio.Ao.Abd.RO

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
Abdominal Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the abdominal aorta, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.Abd}	QR.ML.Angio.Ao.Abd
Arch Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the aortic arch, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.Arch}	QR.ML.Angio.Ao.Arch
Ascending Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the ascending aorta, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.Asc}	QR.ML.Angio.Ao.Asc
Aorto-ilio-bifem Angio	Peripheral angiography was performed. The catheter was introduced to the aorto-ilio-bifemoral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Ao.Bifem}	QR.ML.Angio.Ao.Bifem
Descending Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the descending thoracic aorta, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.Desc}	QR.ML.Angio.Ao.Desc
Infrarenal Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the infrarenal abdominal aorta, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.IRenal}	QR.ML.Angio.Ao.IRenal
Root Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the aortic root, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.Root}	QR.ML.Angio.Ao.Root
Suprarenal Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the suprarenal abdominal aorta, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.SRenal}	QR.ML.Angio.Ao.SRenal
Thoracic Aortography	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. With the catheter in the aortic root, contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao.Thor}	QR.ML.Angio.Ao.Thor

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
Aortography (NOS)	Aortography was performed. A catheter was introduced and advanced into the aorta in a retrograde direction. [Location] contrast was injected with a power injector. Aortic images were obtained using multiple projections.	{Angio.Ao}	QR.ML.Angio.Ao
Arch Angio	Peripheral angiography was performed. The catheter was introduced to the arch, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Arch}	QR.ML.Angio.Arch
Bilateral Carotid Angio	Cerebral angiography was performed. The catheter was introduced to the both carotid arteries (selectively), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Carotid.B}	QR.ML.Angio.Carotid.B
L Carotid Angio	Cerebral angiography was performed. The catheter was introduced to the left carotid, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Carotid.L}	QR.ML.Angio.Carotid.L
R Carotid Angio	Cerebral angiography was performed. The catheter was introduced to the right carotid, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Carotid.R}	QR.ML.Angio.Carotid.R
Celiac Angio	Peripheral angiography was performed. The catheter was introduced to the celiac, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Celiac}	QR.ML.Angio.Celiac
L Common Femoral Angio	Peripheral angiography was performed. The catheter was introduced to the left common femoral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of first-order branches of distal aorta.	{Angio.CFA.L}	QR.ML.Angio.CFA.L
R Common Femoral Angio	Peripheral angiography was performed. The catheter was introduced to the right common femoral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of first-order branches of distal aorta.	{Angio.CFA.R}	QR.ML.Angio.CFA.R
L Common Iliac Angio	Peripheral angiography was performed. The catheter was introduced to the left common iliac, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.CIA.L}	QR.ML.Angio.CIA.L
R Common Iliac Angio	Peripheral angiography was performed. The catheter was introduced to the right common iliac, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.CIA.R}	QR.ML.Angio.CIA.R
L Fem Closure Angio	Closure evaluation angiography was performed. The catheter was introduced to the left common femoral, under fluoroscopic guidance.	{Angio.Close.Fem.L}	QR.ML.Angio.Close.Fem.L

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
R Fem Closure Angio	Closure evaluation angiography was performed. The catheter was introduced to the right common femoral, under fluoroscopic guidance.	{Angio.Close.Fem.R}	QR.ML.Angio.Close.Fem.R
Bilateral Coronary Angio	Selective right and left coronary angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Cor.Bi}	QR.ML.Angio.Cor.Bi
L Coronary Angio	Selective left coronary angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Cor.L}	QR.ML.Angio.Cor.L
R Coronary Angio	Selective right coronary angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Cor.R}	QR.ML.Angio.Cor.R
Coronary Angio (NOS)	Selective coronary angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Cor}	QR.ML.Angio.Cor
L Deep Femoral Angio	Peripheral angiography was performed. The catheter was introduced to the left deep femoral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.DFA.L}	QR.ML.Angio.DFA.L
R Deep Femoral Angio	Peripheral angiography was performed. The catheter was introduced to the right deep femoral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.DFA.R}	QR.ML.Angio.DFA.R
L External Iliac Angio	Peripheral angiography was performed. The catheter was introduced to the left external iliac, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.EIA.L}	QR.ML.Angio.EIA.L
R External Iliac Angio	Peripheral angiography was performed. The catheter was introduced to the right external iliac, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.EIA.R}	QR.ML.Angio.EIA.R
L Femoral Sideport Angio	Peripheral angiography was performed. The catheter was introduced to the left femoral sheath side-port, under fluoroscopic guidance. Contrast was injected into the sheath side port by hand. Images were obtained using multiple projections.	{Angio.Fem.SP.L}	QR.ML.Angio.Fem.SP.L
R Femoral Sideport Angio	Peripheral angiography was performed. The catheter was introduced to the right femoral sheath side-port, under fluoroscopic guidance. Contrast was injected into the sheath side port by hand. Images were obtained using multiple projections.	{Angio.Fem.SP.R}	QR.ML.Angio.Fem.SP.R
L Arterial Fistula Angio	Peripheral angiography was performed. The catheter was introduced to the left AV fistula (arterial side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Fistula.A.L}	QR.ML.Angio.Fistula.A.L

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
R Arterial Fistula Angio	Peripheral angiography was performed. The catheter was introduced to the right AV fistula (arterial side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Fistula.A.R}	QR.ML.Angio.Fistula.A.R
L Venous Fistula Angio	Peripheral angiography was performed. The catheter was introduced to the left AV fistula (venous side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Fistula.V.L}	QR.ML.Angio.Fistula.V.L
R Venous Fistula Angio	Peripheral angiography was performed. The catheter was introduced to the right AV fistula (venous side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Fistula.V.R}	QR.ML.Angio.Fistula.V.R
Gastroepiploic Graft Angio	Selective gastroepiploic graft angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.G.GE}	QR.ML.Angio.G.GE
LIMA Graft Angio	Selective left internal mammary graft angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.G.LIMA}	QR.ML.Angio.G.LIMA
Free Radial Graft Angio	Selective free radial graft angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.G.Rad.F}	QR.ML.Angio.G.Rad.F
Free RIMA Graft Angio	Selective free right internal mammary graft angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.G.RIMA.F}	QR.ML.Angio.G.RIMA.F
RIMA Graft Angio	Selective right internal mammary graft angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.G.RIMA}	QR.ML.Angio.G.RIMA
SVG Angio	Selective saphenous vein graft angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.G.SVG}	QR.ML.Angio.G.SVG
Graft Angio (NOS)	Selective graft angiography was performed. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.G}	QR.ML.Angio.G
L Internal Iliac Angio	Peripheral angiography was performed. The catheter was introduced to the left internal iliac, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.IIA.L}	QR.ML.Angio.IIA.L
R Internal Iliac Angio	Peripheral angiography was performed. The catheter was introduced to the right internal iliac, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.IIA.R}	QR.ML.Angio.IIA.R
Inferior Mesenteric Angio	Peripheral angiography was performed. The catheter was introduced to the inferior mesenteric, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.IMA}	QR.ML.Angio.IMA
Innominate Angio	Peripheral angiography was performed. The catheter was introduced to the innominate, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Innom}	QR.ML.Angio.Innom

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
L Infrapopliteal Angio	Peripheral angiography was performed. The catheter was introduced to the left popliteal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.IPopA.L}	QR.ML.Angio.IPopA.L
R Infrapopliteal Angio	Peripheral angiography was performed. The catheter was introduced to the right popliteal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.IPopA.R}	QR.ML.Angio.IPopA.R
Bilateral Leg Runoff	Peripheral angiography was performed. The catheter was introduced to the bilateral lower extremity, under fluoroscopic guidance. Images were obtained, with bilateral run-off imaging.	{Angio.LE.Bi.RO}	QR.ML.Angio.LE.Bi.RO
Left Leg Runoff	Peripheral angiography was performed. Images were obtained, with left unilateral run-off imaging.	{Angio.LLE.RO}	QR.ML.Angio.LLE.RO
Right Leg Runoff	Peripheral angiography was performed. Images were obtained, with right unilateral run-off imaging.	{Angio.RLE.RO}	QR.ML.Angio.RLE.RO
Bilateral Lower Extremity Angio	Peripheral angiography was performed. The catheter was introduced to the bilateral lower extremity, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.LE.Bi}	QR.ML.Angio.LE.Bi
L Lower Extremity Angio	Peripheral angiography was performed. The catheter was introduced to the left lower extremity (selectively), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.LE.L}	QR.ML.Angio.LE.L
R Lower Extremity Angio	Peripheral angiography was performed. The catheter was introduced to the selective right lower extremity, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.LE.R}	QR.ML.Angio.LE.R
LIMA Angio	Peripheral angiography was performed. The catheter was introduced to the left internal mammary, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of second-order branches of distal aorta.	{Angio.LIMA}	QR.ML.Angio.LIMA
L Ventriculogram Performed	Left heart catheterization with contrast angiography. With the catheter in the left ventricle, contrast was injected.	{Angio.LV}	QR.ML.Angio.LV
Pulmonary Artery Angio	Right heart catheterization with contrast angiography was performed. With the catheter in the main pulmonary artery, contrast was injected.	{Angio.PA}	QR.ML.Angio.PA
Peripheral Angio (NOS)	Peripheral angiography was performed. The catheter was introduced to the peripheral artery, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Peripheral}	QR.ML.Angio.Peripheral

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
L Peroneal Angio	Peripheral angiography was performed. The catheter was introduced to the left peroneal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Peroneal.L}	QR.ML.Angio.Peroneal.L
R Peroneal Angio	Peripheral angiography was performed. The catheter was introduced to the right peroneal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Peroneal.R}	QR.ML.Angio.Peroneal.R
L Popliteal Angio	Peripheral angiography was performed. The catheter was introduced to the left popliteal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using AP projections.	{Angio.Pop.L}	QR.ML.Angio.Pop.L
R Popliteal Angio	Peripheral angiography was performed. The catheter was introduced to the right popliteal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using AP projections.	{Angio.Pop.R}	QR.ML.Angio.Pop.R
L Posterior Tibial Angio	Peripheral angiography was performed. The catheter was introduced to the left posterior tibial, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.PostTib.L}	QR.ML.Angio.PostTib.L
R Posterior Tibial Angio	Peripheral angiography was performed. The catheter was introduced to the right posterior tibial, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.PostTib.R}	QR.ML.Angio.PostTib.R
Power Injector Angio	Peripheral angiography was performed. Contrast was injected with a power injector.	{Angio.Power}	QR.ML.Angio.Power
Bilateral Renal Angio	Peripheral angiography was performed. The catheter was introduced to the both renal arteries (selectively), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of first-order branches of distal aorta..	{Angio.Renal.Bi}	QR.ML.Angio.Renal.Bi
L Renal Angio	Peripheral angiography was performed. The catheter was introduced to the left renal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Renal.L}	QR.ML.Angio.Renal.L
R Renal Angio	Peripheral angiography was performed. The catheter was introduced to the right renal, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Renal.R}	QR.ML.Angio.Renal.R
RIMA Angio	Peripheral angiography was performed. The catheter was introduced to the right internal mammary, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.RIMA}	QR.ML.Angio.RIMA

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
L Subclavian Angio	Peripheral angiography was performed. The catheter was introduced to the left subclavian, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of first-order arch branches.	{Angio.SCA.L}	QR.ML.Angio.SCA.L
R Subclavian Angio	Peripheral angiography was performed. The catheter was introduced to the right subclavian, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of second-order branches.	{Angio.SCA.R}	QR.ML.Angio.SCA.R
L Superficial Femoral Angio	Peripheral angiography was performed. The catheter was introduced to the left superficial femoral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.SFA.L}	QR.ML.Angio.SFA.L
R Superficial Femoral Angio	Peripheral angiography was performed. The catheter was introduced to the right superficial femoral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.SFA.R}	QR.ML.Angio.SFA.R
L Arterial Shunt Angio	Peripheral angiography was performed. The catheter was introduced to the left AV shunt (arterial side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Shunt.A.L}	QR.ML.Angio.Shunt.A.L
R Arterial Shunt Angio	Peripheral angiography was performed. The catheter was introduced to the right AV shunt (arterial side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Shunt.A.R}	QR.ML.Angio.Shunt.A.R
L Venous Shunt Angio	Peripheral angiography was performed. The catheter was introduced to the left AV shunt (venous side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Shunt.V.L}	QR.ML.Angio.Shunt.V.L
R Venous Shunt Angio	Peripheral angiography was performed. The catheter was introduced to the right AV shunt (venous side), under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.Shunt.V.R}	QR.ML.Angio.Shunt.V.R
Superior Mesenteric Angio	Peripheral angiography was performed. The catheter was introduced to the superior mesenteric, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.SMA}	QR.ML.Angio.SMA
L Tibio-peroneal Angio	Peripheral angiography was performed. The catheter was introduced to the left tibioperoneal trunk, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.TP.L}	QR.ML.Angio.TP.L
R Tibio-peroneal Angio	Peripheral angiography was performed. The catheter was introduced to the right tibioperoneal trunk, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.TP.R}	QR.ML.Angio.TP.R

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
L Upper Extremity Angio	Peripheral angiography was performed. The catheter was introduced to the left upper extremity, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.UE.L}	QR.ML.Angio.UE.L
R Upper Extremity Angio	Peripheral angiography was performed. The catheter was introduced to the right upper extremity, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections.	{Angio.UE.R}	QR.ML.Angio.UE.R
L Vertebral Angio	Cerebral angiography was performed. The catheter was introduced to the left vertebral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of second-order branches.	{Angio.Vert.L}	QR.ML.Angio.Vert.L
R Vertebral Angio	Cerebral angiography was performed. The catheter was introduced to the right vertebral, under fluoroscopic guidance. Contrast was injected by hand. Images were obtained using multiple projections. This procedure was selective arteriography of third-order branches.	{Angio.Vert.R}	QR.ML.Angio.Vert.R
Aortic Endo deploy	Endovascular aortic repair was performed using an endograft.	{AorticEndo}	QR.ML.AorticEndo
Endomyocardial Biopsy	Endomyocardial biopsy was performed.	{Biopsy.Endo}	QR.ML.Biopsy.Endo
Cardioversion	Cardioversion was performed.	{Cardioverted}	QR.ML.Cardioverted
L Carotid Sinus Massage *	Carotid sinus massage (left) was performed.	{CarotidMassage.L}	QR.ML.CarotidMassage.L
R Carotid Sinus Massage *	Carotid sinus massage (right) was performed.	{CarotidMassage.R}	QR.ML.CarotidMassage.R
LHC w/ LV Gram	Left heart catheterization with contrast angiography was successfully performed using a retrograde approach. A 7 Fr Pigtail catheter was introduced. The catheter was advanced to the left ventricle under fluoroscopic guidance. Measurements included pressure recordings from the left ventricle. With the catheter at the left ventricular apex, contrast was injected with a power injector. Images were obtained using multiple projections. The catheter was pulled back to the descending aorta.	{Cath.LV.Contr}	QR.ML.Cath.LV.Contr
L & R HC	Procedure narrative: 1. Right heart catheterization was performed. 2. Left heart catheterization was performed.	{Cath.LV.RV}	QR.ML.Cath.LV.RV
LHC w/out LV Gram	Left heart catheterization was successfully performed using a retrograde approach. A 7 Fr Pigtail catheter was introduced. The catheter was advanced to the left ventricle under fluoroscopic guidance. Resting hemodynamics were obtained. Measurements included pressure recordings from the left ventricle. The catheter was pulled back to the descending aorta.	{Cath.LV}	QR.ML.Cath.LV

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
RHC w/ unspecified method	Right heart catheterization was performed. A 7 Fr Swan Ganz catheter was introduced. The catheter was advanced to the pulmonary artery under fluoroscopic guidance. Resting hemodynamics were obtained. Measurements included pressures, arterial and venous oxygen saturation samples, and cardiac output. The catheter remained in place throughout the procedure for continuous monitoring of pulmonary artery pressure.	{Cath.RV.CO}	QR.ML.Cath.RV.CO
RHC w/ Assumed Fick	Right heart catheterization was performed. A 7 Fr Swan Ganz catheter was introduced. The catheter was advanced to the pulmonary artery under fluoroscopic guidance. Resting hemodynamics were obtained. Measurements included pressures, arterial and venous oxygen saturation samples, and cardiac output (by Fick using assumed VO2). The catheter remained in place throughout the procedure for continuous monitoring of pulmonary artery pressure.	{Cath.RV.Fick.A}	QR.ML.Cath.RV.Fick.A
RHC w/ Fick	Right heart catheterization was performed. A 7 Fr Swan Ganz catheter was introduced. The catheter was advanced to the pulmonary artery under fluoroscopic guidance. Resting hemodynamics were obtained. Measurements included pressures, arterial and venous oxygen saturation samples, and cardiac output (by Fick using measured VO2). The catheter remained in place throughout the procedure for continuous monitoring of pulmonary artery pressure.	{Cath.RV.Fick.M}	QR.ML.Cath.RV.Fick.M
RHC w/ thermodilution	Right heart catheterization was performed. A 7 Fr Swan Ganz catheter was introduced. The catheter was advanced to the pulmonary artery under fluoroscopic guidance. Resting hemodynamics were obtained. Measurements included pressures, arterial and venous oxygen saturation samples, and cardiac output (by thermodilution). The catheter remained in place throughout the procedure for continuous monitoring of pulmonary artery pressure.	{Cath.RV.Thermo}	QR.ML.Cath.RV.Thermo
RHC (NOS)	Right heart catheterization was performed. A 7 Fr Swan Ganz catheter was introduced. The catheter was advanced to the pulmonary artery under fluoroscopic guidance. Resting hemodynamics were obtained. Measurements included pressures and arterial and venous oxygen saturation samples. The catheter remained in place throughout the procedure for continuous monitoring of pulmonary artery pressure.	{Cath.RV}	QR.ML.Cath.RV
Celox bandage used	Hemostasis was obtained. Vessel closure was achieved with a Celox bandage device.	{Celox}	QR.ML.Celox
Central Line Placed	Central venous access was obtained. A catheter was inserted into the vessel.	{CentralLine}	QR.ML.CentralLine
AP Window Closure	An aortopulmonary window was closed using a percutaneous device.	{Close.APW}	QR.ML.Close.APW

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
ASD Closure	Percutaneous device closure of an atrial septal defect was performed. The long sheath was advanced over a guidewire to the left upper pulmonary vein, and the wire was removed. Repositioning was performed.	{Close.ASD}	QR.ML.Close.ASD
Skin Adhesive Applied *	The wound was closed. The skin was approximated with Dermabond (2-octyl cyanoacrylate).	{Closure.Adhesive}	QR.ML.Closure.Adhesive
PFO Closure	Percutaneous device closure of a patent foramen ovale was performed. The long sheath was advanced over a guidewire to the left upper pulmonary vein, and the wire was removed. Repositioning was performed.	{Closure.PFO}	QR.ML.Closure.PFO
Consent Signed and On Chart	The risks, benefits, and alternatives to the procedure were explained and informed consent was obtained.	{Consent}	QR.ML.Consent
Knife blade count confirmed	All instrument counts were correct.	{Count.Blade}	QR.ML.Count.Blade
Electrosurgical Tip count confirmed	All instrument counts were correct.	{Count.ESurg}	QR.ML.Count.ESurg
Injectable needle count confirmed	All needle counts were correct.	{Count.Needle}	QR.ML.Count.Needle
Raytek count confirmed	All sponge counts were correct.	{Count.Raytek}	QR.ML.Count.Raytek
Seldinger needle count confirmed	All needle counts were correct.	{Count.Seldinger}	QR.ML.Count.Seldinger
Post Procedure Sponge Count Confirmed	All sponge counts were correct.	{Count.Sponge}	QR.ML.Count.Sponge
Suture count confirmed	All needle counts were correct.	{Count.Suture}	QR.ML.Count.Suture
Post procedure counts confirmed	All counts of disposable supplies were correct.	{Count}	QR.ML.Count
Defibrillation	Defibrillation was performed.	{Defibrillated}	QR.ML.Defibrillated
ICD Implant 1 lead *	Procedure: 1. A right ventricular defibrillator lead was implanted. Under fluoroscopic guidance, it was advanced to the right ventricle. 2. A single-chamber cardioverter defibrillator was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.ICD.Imp.1}	QR.ML.Dev.ICD.Imp.1
ICD Implant 2 lead *	Procedure: 1. A right ventricular defibrillator lead was implanted. Under fluoroscopic guidance, it was advanced to the right ventricle. 2. A right atrial lead was implanted. Under fluoroscopic guidance, it was advanced to the right atrium. 3. A dual-chamber cardioverter defibrillator was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.ICD.Imp.2}	QR.ML.Dev.ICD.Imp.2

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
BiVent ICD Implant *	A biventricular cardioverter defibrillator was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.ICD.Imp.BiV}	QR.ML.Dev.ICD.Imp.BiV
ICD Implantation *	A cardioverter defibrillator was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.ICD.Imp}	QR.ML.Dev.ICD.Imp
ICD Generator Change *	Procedure: 1. The cardioverter defibrillator was detached from the lead(s) and explanted. 2. A cardioverter defibrillator was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.ICD.Replace}	QR.ML.Dev.ICD.Replace
Loop Recorder Removal *	The loop recorder was explanted.	{Dev.LoopRec.Exp}	QR.ML.Dev.LoopRec.Exp
Loop Recorder Insertion *	A loop recorder was implanted.	{Dev.LoopRec.Imp}	QR.ML.Dev.LoopRec.Imp
Pacemaker Extraction *	The permanent pacemaker was detached from the lead(s) and explanted.	{Dev.PPM.Exp}	QR.ML.Dev.PPM.Exp
Pacer Implant -1 lead *	Procedure: 1. A right ventricular pacing lead was implanted. Under fluoroscopic guidance, it was advanced to the right ventricle. 2. A single-chamber permanent pacemaker was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.PPM.Imp.1}	QR.ML.Dev.PPM.Imp.1
Pacer Implant -2 lead *	Procedure: 1. A right ventricular pacing lead was implanted. Under fluoroscopic guidance, it was advanced to the right ventricle. 2. A right atrial pacing lead was implanted. Under fluoroscopic guidance, it was advanced to the right atrium. 3. A dual-chamber permanent pacemaker was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.PPM.Imp.2}	QR.ML.Dev.PPM.Imp.2
BiVent Pacer Implant *	A biventricular permanent pacemaker was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.PPM.Imp.BiV}	QR.ML.Dev.PPM.Imp.BiV
Permanent Pacemaker Implant *	A permanent pacemaker was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.PPM.Imp}	QR.ML.Dev.PPM.Imp
Pacemaker Generator Change *	Procedure: 1. The permanent pacemaker was detached from the lead(s) and explanted. 2. A permanent pacemaker was attached to the lead(s) and implanted; it was then anchored to the underlying fascia with nonabsorbable sutures.	{Dev.PPM.Replace}	QR.ML.Dev.PPM.Replace
DFT Test *	Defibrillation threshold testing was performed.	{Dev.Tested.DFT}	QR.ML.Dev.Tested.DFT

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
Device tested *	Device testing was performed. Two-way communication was established between the device and its programmer.	{Dev.Tested}	QR.ML.Dev.Tested
Patient Disposition: Cath Lab Holding	The patient was transferred to cath lab holding.	{Disp.CLHolding}	QR.ML.Disp.CLHolding
Patient Disposition: Critical Care Bed	The patient was transferred to the intensive care unit.	{Disp.ICU}	QR.ML.Disp.ICU
Patient Disposition: Other	The patient was discharged to other location.	{Disp.Other}	QR.ML.Disp.Other
Patient Disposition: Recovery Area	The patient was transferred to the recovery unit.	{Disp.Recov}	QR.ML.Disp.Recov
Patient Disposition: Regular Bed	The patient was transferred to a regular nursing floor.	{Disp.RegBed}	QR.ML.Disp.RegBed
Patient Disposition: Telemetry Bed	The patient was transferred to the telemetry unit.	{Disp.Tele}	QR.ML.Disp.Tele
Distal pulses checked	Hemostasis was obtained. Distal pulses were unchanged.	{DistalPulses}	QR.ML.DistalPulses
Coil Embolization	Procedure narrative: Coil embolization was performed in the lesion. See detailed description below (1st lesion intervention). 1st lesion: Coil embolization was performed.	{Embolize.Coil}	QR.ML.Embolize.Coil
All equipment removed	All non-implanted equipment used during the procedure was removed.	{EquipRem}	QR.ML.EquipRem
Diag Catheter Inserted	A catheter was placed.	{Ins.DiagCath}	QR.ML.Ins.DiagCath
Diag Catheter Exchanged	The catheter was exchanged.	{Exch.DiagCath}	QR.ML.Exch.DiagCath
Diag Catheter Removed	A catheter was removed.	{Rem.DiagCath}	Qr.ML.Rem.DiagCath
FFR	Pressure-derived flow reserve was measured.	{FFR}	QR.ML.FFR
IABP	An intra-aortic balloon pump was introduced. The femoral artery was cannulated. The balloon catheter was advanced into the aorta and the tip was fluoroscopically positioned just distal to the left subclavian artery origin. Balloon pumping was begun, adjusting inflation and deflation times to maximize diastolic augmentation and minimize presystolic LV afterload.	{IABP}	QR.ML.IABP
Impella Insertion	An Impella pump catheter was introduced.	{Impella}	QR.ML.Impella
Coronary Sinus Cannulated	Coronary sinus angiography was performed. A steerable catheter was advanced into the coronary sinus.	{Insert.CSLeadDel}	QR.ML.Insert.CSLeadDel
Peripheral wire inserted	A wire was placed.	{Insert.Wire.Periph}	QR.ML.Insert.Wire.Periph
IVC Filter Removed	IVC filter removal was performed. A wire was advanced through the sheath. The access site was serially dilated and a device sheath was placed over the guide wire, which was advanced to the renal artery level.	{IVCFilter.Exp}	QR.ML.IVCFilter.Exp

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
IVC Filter Insertion	Permanent IVC filter intervention was performed successfully under fluoroscopic guidance. IVC anatomy was initially defined by venography. A wire was advanced through the right femoral vein sheath. The access site was serially dilated and a device sheath was placed over the guide wire, which was advanced to the renal artery level under fluoroscopic guidance. Satisfactory position below the renal veins was confirmed by fluoroscopy and abdominal radiography.	{IVCFilter}	QR.ML.IVCFilter
Intravascular Ultrasound	Diagnostic intravascular ultrasound was used. The vessel was entered, an IVUS catheter was advanced into position over the wire, and imaging was performed. Vessel dimensions were measured.	{IVUS}	QR.ML.IVUS
LAA Epicardial Cath	Pericardial access was obtained for left atrial appendage occlusion. A long, thin-walled needle was advanced until access to the pericardial space was obtained. A wire was inserted into the pericardial space and the access site was dilated. A soft tip sheath was advanced over the wire into the pericardial space and left in position for the subsequent procedure.	{LAAO.EpiAccess}	QR.ML.LAAO.EpiAccess
LAA Occlusion Device	The left atrial appendage was occluded using an internal occluder. Device size had been estimated by a pre-procedure TEE. The transseptal sheath was exchanged for the delivery system, which was advanced into the left atrium. TEE measurements were repeated and the device sizing was confirmed to be appropriate. The device was delivered into the left atrium. TEE imaging was repeated in multiple views and correct positioning of the device was observed with no Doppler jets into the left atrial appendage. A tug test was performed to determine the security of the device. The case was paused for 10 mins. TEE measurements were then repeated. Adequate compression was observed. The device was released and permanently delivered. Post delivery measurements were obtained.	{LAAO.Internal}	QR.ML.LAAO.Internal

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
LAA Loop Closure	The LA appendage was closed using an extracardiac ligature. An endocardial magnet wire was advanced to the apex of the left atrial appendage. An epicardial magnet wire was advanced through the pericardial catheter and manipulated toward the left atrial appendage until a connection with the endocardial magnet wire was achieved. The Lariat suture device was inserted into the pericardium over the epicardial magnet wire and positioned over and around the left atrial appendage. The balloon was inflated. Positioning of the device was confirmed in multiple views to be proximal to the endocardial magnet wire balloon. The loop of the device was closed and no flow was observed into the left atrial appendage. The suture was deployed. The suture was tightened according to protocol. The closure device was removed. The sheath was removed over a wire and a drain was placed in the pericardial space.	{LAAO.LoopClose}	QR.ML.LAAO.LoopClose
Lead Disconnect *	The lead was disconnected.	{Lead.Disconn}	QR.ML.Lead.Disconn
Laser Lead Extraction *	The lead was successfully extracted using a laser sheath.	{Lead.Extract.Laser}	QR.ML.Lead.Extract.Laser
Lead Extraction *	The lead was successfully extracted.	{Lead.Extract}	QR.ML.Lead.Extract
Atrial Lead Implant *	A lead was implanted. Under fluoroscopic guidance, it was advanced to the atrium.	{Lead.Imp.Atrial}	QR.ML.Lead.Imp.Atrial
LV Lead Implant *	A lead was implanted. Under fluoroscopic guidance, it was advanced to the left ventricle.	{Lead.Imp.LV}	QR.ML.Lead.Imp.LV
RV Lead Implant *	A right ventricular lead was implanted. Under fluoroscopic guidance, it was advanced to the right ventricle.	{Lead.Imp.RV}	QR.ML.Lead.Imp.RV
Lead Implant *	A lead was implanted. It was secured using non-absorbable suture.	{Lead.Imp}	QR.ML.Lead.Imp
Lead Inspection *	The lead was visually inspected.	{Lead.Inspected}	QR.ML.Lead.Inspected
2% Lido to Site	Local anesthesia was provided. 2% lidocaine was administered to the access site.	{Local.2}	QR.ML.Local.2
1% Lido to L Groin	Local anesthesia was provided. 1% lidocaine was administered to the left groin.	{Local.Fem.L}	QR.ML.Local.Fem.L
2% Lido to R Groin	Local anesthesia was provided. 2% lidocaine was administered to the right groin.	{Local.Fem.R.2}	QR.ML.Local.Fem.R.2
1% Lido to R Groin	Local anesthesia was provided. 1% lidocaine was administered to the right groin.	{Local.Fem.R}	QR.ML.Local.Fem.R
1% Lido to R Jugular area	Local anesthesia was provided. 1% lidocaine was administered to the right internal jugular vein access site.	{Local.IJ.R}	QR.ML.Local.IJ.R
1% Lido to R Radial Area	Local anesthesia was provided. 1% lidocaine was administered to the right radial artery access site.	{Local.Rad.R}	QR.ML.Local.Rad.R
1% Lido to Site	Local anesthesia was provided. 1% lidocaine was administered to the access site.	{Local}	QR.ML.Local

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
Mitral Clip	Percutaneous mitral valve repair was performed using a MitraClip mitral valve repair system. The access site was dilated. The MitraClip clip delivery system was inserted through the guide system and out into the left atrium. The MitraClip was positioned perpendicular to the mitral valve plane, and directed toward the valve. The arms were opened and the MitraClip was passed down to the valve. Anterior-posterior positioning of the Mitraclip was performed and confirmed visually. The MitraClip was advanced into the left ventricle below the mitral valve. The clip was partially closed and retracted, capturing the leaflets. The grippers of the Mitraclip were lowered, trapping the leaflets on the clip arms. The clip was closed further. Imaging demonstrated adequate and stable grasp of the leaflets.	{MitralClip}	QR.ML.MitralClip
OCT	Diagnostic optical coherence tomography was used.	{OCT}	QR.ML.OCT
Patient Origin: Emergency Room	The patient was admitted from the emergency department.	{Origin.ER}	QR.ML.Origin.ER
Patient Origin: Transfer from Other Hospital	The patient was transferred from an acute care facility.	{Origin.Transfer}	QR.ML.Origin.Transfer
PA pressure sensor implanted *	A pulmonary artery sensor was successfully implanted.	{PASensor}	QR.ML.PASensor
Pericardiocentesis	Pericardiocentesis was performed. A long, thin-walled needle was advanced, until fluid was aspirated from the pericardial space.	{PCentesis}	QR.ML.PCentesis
Myocardial Flow Reserve	Pressure-derived flow reserve measurement. Maximal hyperemia was achieved with adenosine.	{PFR}	QR.ML.PFR
Pocket created using blunt dissection *	Using blunt dissection, the subcutaneous tissue was dissected to the prepectoral fascia. A pocket was constructed.	{Pocket.Blunt}	QR.ML.Pocket.Blunt
Wound Closure *	The wound was closed.	{Pocket.Closure}	QR.ML.Pocket.Closure
Pocket Irrigated with Antibiotic Solution *	The pocket was irrigated with gentamicin and bacitracin. The wound was closed.	{Pocket.Irrigate}	QR.ML.Pocket.Irrigate
Prior Pkt Opening *	The pocket was opened.	{Pocket.Prior}	QR.ML.Pocket.Prior
Pocket Formed *	The subcutaneous tissue was dissected to the prepectoral fascia. A pocket was constructed.	{Pocket}	QR.ML.Pocket
Cardiac Rehab Recommended	The patient was referred to an outpatient cardiac rehabilitation program.	{Rec.Rehab}	QR.ML.Rec.Rehab
Smoking Cessation Education provided to Pt	Patient management should include counseling to assist with smoking cessation.	{Rec.SmokeCess}	QR.ML.Rec.SmokeCess
Atrial Lead Revision *	The atrial lead was revised. The lead was manipulated.	{Rev.Lead.Atrial}	QR.ML.Rev.Lead.Atrial

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
LV Lead Revision *	The left ventricular lead was revised. The lead was manipulated.	{Rev.Lead.LV}	QR.ML.Rev.Lead.LV
RV Lead Revision *	The right ventricular lead was revised. The lead was manipulated.	{Rev.Lead.RV}	QR.ML.Rev.Lead.RV
Lead Revision *	The lead was revised. The lead was manipulated.	{Rev.Lead}	QR.ML.Rev.Lead
Septal Ablation	Septal ablation was performed.	{SeptalAblation}	QR.ML.SeptalAblation
Foley inserted	Initial setup. The patient arrived at the laboratory. A Foley catheter was inserted.	{Setup.Foley}	QR.ML.Setup.Foley
Grounding Pad Applied	Initial setup. The patient arrived at the laboratory. A grounding pad was placed.	{Setup.Ground}	QR.ML.Setup.Ground
Pt placed on O2	Supplemental oxygen was administered throughout the procedure.	{Setup.Oxygen}	QR.ML.Setup.Oxygen
ECG leads and Multifunction pads applied	Initial setup. The patient arrived at the laboratory. Surface ECG leads were monitored. Self-adhesive defibrillation pads were applied.	{Setup.Pads}	QR.ML.Setup.Pads
Patient prepped and draped in sterile manner	The planned puncture sites were prepped and draped in the usual sterile manner.	{Setup.Prep}	QR.ML.Setup.Prep
L Brachial artery exchange	Sheath exchange was performed. The left brachial artery sheath was exchanged.	{Sh.Ex.A.Brach.L}	QR.ML.Sh.Ex.A.Brach.L
R Brachial artery exchange	Sheath exchange was performed. The right brachial artery sheath was exchanged.	{Sh.Ex.A.Brach.R}	QR.ML.Sh.Ex.A.Brach.R
L Femoral artery exchange	Sheath exchange was performed. The left femoral artery sheath was exchanged.	{Sh.Ex.A.Fem.L}	QR.ML.Sh.Ex.A.Fem.L
R Femoral artery exchange	Sheath exchange was performed. The right femoral artery sheath was exchanged.	{Sh.Ex.A.Fem.R}	QR.ML.Sh.Ex.A.Fem.R
L Radial artery exchange	Sheath exchange was performed. The left radial artery sheath was exchanged.	{Sh.Ex.A.Rad.L}	QR.ML.Sh.Ex.A.Rad.L
R Radial artery exchange	Sheath exchange was performed. The left radial artery sheath was exchanged.	{Sh.Ex.A.Rad.R}	QR.ML.Sh.Ex.A.Rad.R
L Brachial vein exchange	Sheath exchange was performed. The left brachial vein sheath was exchanged.	{Sh.Ex.V.Brach.L}	QR.ML.Sh.Ex.V.Brach.L
R Brachial vein exchange	Sheath exchange was performed. The right brachial vein sheath was exchanged.	{Sh.Ex.V.Brach.R}	QR.ML.Sh.Ex.V.Brach.R
L Femoral vein exchange	Sheath exchange was performed. The left femoral vein sheath was exchanged.	{Sh.Ex.V.Fem.L}	QR.ML.Sh.Ex.V.Fem.L
R Femoral vein exchange	Sheath exchange was performed. The right femoral vein sheath was exchanged.	{Sh.Ex.V.Fem.R}	QR.ML.Sh.Ex.V.Fem.R
L Internal Jugular exchange	Sheath exchange was performed. The left internal jugular vein sheath was exchanged.	{Sh.Ex.V.IJ.L}	QR.ML.Sh.Ex.V.IJ.L
R Internal Jugular exchange	Sheath exchange was performed. The right internal jugular vein sheath was exchanged.	{Sh.Ex.V.IJ.R}	QR.ML.Sh.Ex.V.IJ.R
Sheath Exchange	Sheath exchange was performed.	{Sh.Ex}	QR.ML.Sh.Ex
L Radial Sheath Removed	Left radial artery hemostasis was obtained. The sheath was removed.	{Sh.Rem.A.Rad.L}	QR.ML.Sh.Rem.A.Rad.L
R Radial Sheath Removed	Right radial artery hemostasis was obtained. The sheath was removed.	{Sh.Rem.A.Rad.R}	QR.ML.Sh.Rem.A.Rad.R

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
Sheath removed in recovery	Hemostasis was obtained. The sheath was removed in the recovery room.	{Sh.Rem.Recov}	QR.ML.Sh.Rem.Recov
Sheath Removed	Hemostasis was obtained. The sheath was removed.	{Sh.Rem}	QR.ML.Sh.Rem
Sheaths secured to be pulled in holding	Hemostasis was obtained. The sheath was removed in the holding area.	{Sh.Secured}	QR.ML.Sh.Secured
Sheath sutured in place	Hemostasis was obtained. The sheath was sutured in place.	{Sh.Sutured}	QR.ML.Sh.Sutured
Angioseal Deployed	Hemostasis was obtained. The sheath was removed. Vessel closure was achieved with an an Angioseal device.	{Stasis.Angioseal}	QR.ML.Stasis.Angioseal
Hemostasis w/ C-clamp	Hemostasis was obtained. The sheath was removed. C-clamp compression was applied.	{Stasis.CClamp}	QR.ML.Stasis.CClamp
Closure Device Deployed	Hemostasis was obtained. Vessel closure was achieved with a closure device.	{Stasis.Closure}	QR.ML.Stasis.Closure
Hemostasis w/ Fem-stop	Hemostasis was obtained. The sheath was removed. Fem-Stop compression was applied.	{Stasis.Femstop}	QR.ML.Stasis.Femstop
Hemostasis w/ Hemoband	Hemostasis was obtained. The sheath was removed. Hemoband compression was applied.	{Stasis.Hemoband}	QR.ML.Stasis.Hemoband
Hemostasis w/ Manual Pressure	Hemostasis was obtained. The sheath was removed. Manual compression was applied.	{Stasis.Manual}	QR.ML.Stasis.Manual
Mynx Deployed	Hemostasis was obtained. Vessel closure was achieved with a Mynx device.	{Stasis.Mynx}	QR.ML.Stasis.Mynx
Perclose	Hemostasis was obtained. The sheath was removed. Vessel closure was achieved with a Perclose device.	{Stasis.Perclose}	QR.ML.Stasis.Perclose
Starclose	Hemostasis was obtained. The sheath was removed. Vessel closure was achieved with a Starclose device.	{Stasis.Starclose}	QR.ML.Stasis.Starclose
Hemostasis (NOS)	Hemostasis was obtained. The sheath was removed.	{Stasis}	QR.ML.Stasis
Leads Sutured In Place *	A lead was implanted. It was secured using non-absorbable suture.	{Sutured.Lead}	QR.ML.Sutured.Lead
TAVR	Transcatheter aortic valve replacement was performed. A balloon was inserted over the wire into proper position, and the balloon was inflated to destroy the existing valve. The balloon was then withdrawn over the wire and removed. The balloon mounted valve was advanced to the aortic valve position. The correct positioning and proper orientation of the prosthesis was confirmed prior to deployment. The valve was deployed and implanted.	{TAVR}	QR.ML.TAVR
Transesophageal Echocardiogram	A transesophageal echocardiogram was performed.	{TEE}	QR.ML.TEE
Swan catheter inserted	A Swan Ganz catheter was placed.	{Ins.Swan}	QR.ML.Ins.Swan

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
Swan-Ganz Bipolar Pacing Catheter Inserted	A temporary pacemaker was placed. A new Swan-Ganz Bipolar Pacing was inserted through the sheath and advanced to position under fluoroscopic guidance. Pacing was achieved. Threshold verification and amplitude adjustment was performed.	{Temp.Pacing.Swan}	QR.ML.Temp.Pacing.Swan
Temporary Pacemaker	A temporary pacemaker was placed. Pacing was achieved. Threshold verification and amplitude adjustment was performed.	{Temp.Pacing}	QR.ML.Temp.Pacing
TMVR	Transcatheter mitral valve replacement was performed. The transseptal access was sequentially dilated with 14 Fr and 21 Fr dilators. A sheath was placed through the transseptal access into the left atrium. A glide wire was advanced through the atrial septal sheath into left atrium, mitral valve, and into the left ventricle. The valve diameter was measured with TEE. The balloon mounted valve was advanced to the mitral position. The correct positioning and proper orientation of the prosthesis was confirmed prior to deployment. The valve was deployed and implanted. The LV apical puncture was closed.	{TMVR}	QR.ML.TMVR
TPVR	A pulmonic valve was implanted using a percutaneous transcatheter approach. A wire was advanced to the proper location distal to the pulmonic valve. The balloon mounted valve was advanced to the pulmonic valve position. The correct positioning and proper orientation of the prosthesis was confirmed prior to deployment. The valve was deployed and implanted.	{TPVR}	QR.ML.TPVR
TTVR	A new tricuspid valve was implanted using a percutaneous transcatheter technique. A wire was advanced to a stable position in the right ventricular apex. The balloon mounted valve was advanced to the tricuspid valve position. The correct positioning and proper orientation of the prosthesis was confirmed prior to deployment. The valve was deployed and implanted.	{TTVR}	QR.ML.TTVR
Intracardiac Ultrasound	An intracardiac echocardiogram was performed. A transducer catheter was introduced through the sheath and advanced to the right atrium.	{US.ICA}	QR.ML.US.ICA
Balloon Occlusion Venogram	Venography was performed. Contrast was injected, using a balloon occlusion technique. Images were obtained.	{Veno.BalOcc}	QR.ML.Veno.BalOcc
Coronary Sinus Venogram	Coronary sinus angiography was performed.	{Veno.CS}	QR.ML.Veno.CS
Hepatic Venogram	Venography was performed. Contrast was injected into the hepatic vein. Images were obtained.	{Veno.Hepatic}	QR.ML.Veno.Hepatic
IVC Venogram	Inferior vena cava venography was performed. Contrast was injected by hand into the inferior vena cava vein. Images were obtained in multiple projections.	{Veno.IVC}	QR.ML.Veno.IVC
L Lower Extremity Venogram	Left lower extremity venography was performed. Contrast was injected by hand. Images were obtained in multiple projections.	{Veno.LE.L}	QR.ML.Veno.LE.L

Mac-Lab Hemo System Imported Data Elements 8.0 v1

Mac-Lab macro superset	ASCEND report	ASCEND string for Mac-Lab	ASCEND macro name
R Lower Extremity Venogram	Right lower extremity venography was performed. Contrast was injected by hand. Images were obtained in multiple projections.	{Veno.LE.R}	QR.ML.Veno.LE.R
Portal vein venogram	Venography was performed. Contrast was injected into the portal vein. Images were obtained.	{Veno.Portal}	QR.ML.Veno.Portal
SVC Venogram	Superior vena cava venography was performed. Contrast was injected by hand into the superior vena cava. Images were obtained in multiple projections.	{Veno.SVC}	QR.ML.Veno.SVC
L Upper Extremity Venogram	Left upper extremity venography was performed. Contrast was injected by hand. Images were obtained in multiple projections.	{Veno.UE.L}	QR.ML.Veno.UE.L
R Upper Extremity Venogram	Right upper extremity venography was performed. Contrast was injected by hand. Images were obtained in multiple projections.	{Veno.UE.R}	QR.ML.Veno.UE.R
Venogram	Venography was performed. Images were obtained.	{Veno}	QR.ML.Veno

* Macro present only in cath.implant knowledge base

Import to report supply menus

The categories in the Mac-Lab Hemo equipment folder and subfolders <u>must match the categories exactly.</u> The categories are listed in the first column below. The ASCEND interface is case insensitive.

Mac-Lab categories (subfolders)	ASCEND report finding	ASCEND procedure	ASCEND intervention
Balloons Coronary Balloons Coronary Balloon Catheters Peripheral balloons	Balloon name	Balloon septostomy Valvuloplasties (pulmonic, mitral, aortic)	Cutting balloon angioplasty Balloon angioplasty Thrombolysis Unlisted Procedure
STENT Coronary Stents Coronary Stent Catheters **Peripheral Stents**	Stent name		Stent placement Unlisted procedure
Wires Interventional Guidewires	Guide wire name	Sheath exchange Catheter exchange Doppler flow reserve Pressure flow reserve Diagnostic IVUS IVC filter placement Valvuloplasties (pulmonic, mitral, aortic)	Catheter exchange Guider, wire set-up Sheath exchange Thrombolysis Thrombectomy Balloon angioplasty Cutting balloon angioplasty Rotational atherectomy Directional coronary atherectomy Transluminal extraction atherectomy Stent placement Doppler flow reserve Pressure flow reserve Unlisted procedure
CATHETER Catheters Guide Catheters Interventional Guide Catheters Peripheral cath & Guides	Catheter name	Access Catheter exchange Right heart catheterization Left heart catheterization Coronary, graft angio Aortography Peripheral angiography Coronary sinus angiogram Doppler flow reserve Pressure flow reserve NOGA mapping Pericardiocentesis Diagnostic IVUS	Stent placement Balloon angioplasty Cutting balloon angioplasty Rotational atherectomy Directional coronary atherectomy Transluminal extraction atherectomy Catheter exchange Guider, wire set-up Thrombolysis Thrombectomy Pressure flow reserve Unlisted procedure

Mac-Lab categories (subfolders)	ASCEND report finding	ASCEND procedure	ASCEND intervention
Guide Catheters GUIDES Interventional Guide Catheters Peripheral cath & Guides	Catheter name	Access Catheter exchange Right heart catheterization Left heart catheterization Coronary, graft angio Aortography Peripheral angiography Coronary sinus angiogram Doppler flow reserve Pressure flow reserve NOGA mapping Pericardiocentesis Diagnostic IVUS	Stent placement Balloon angioplasty Cutting balloon angioplasty Rotational atherectomy Directional coronary atherectomy Transluminal extraction atherectomy Catheter exchange Guider, wire set-up Thrombolysis Thrombectomy Pressure flow reserve Unlisted procedure
Rotablator Rotablator Supplies	Atherectomy device		Rotational atherectomy Directional coronary atherectomy Transluminal extraction atherectomy Laser atherectomy
Roto	Atherectomy device		Rotational atherectomy Directional coronary atherectomy Transluminal extraction atherectomy Laser atherectomy
Laser	Atherectomy device		Laser atherectomy
Contrast	Contrast agent	Contrast given	
Sheaths Access and Sheath Supplies	Sheath name	Access Sheath exchange Intracardiac echo Transseptal catheterization Coronary sinus angiogram IVC filter placement Blade septostomy Valvuloplasties (pulmonic, mitral, aortic) Device closure (ASD/PFO, VSD, PDA)	Sheath exchange
PERIPHERAL Peripheral Equipment Peripheral balloons Peripheral Stents Peripheral cath & Guides	Sheath name Snare name Balloon name Stent name Catheter name	Device closure (ASD/PFO, VSD); Same as these categories: sheath balloon stent catheter	Snare name Same as these categories: sheath balloon stent catheter
Thrombectomy Thrombectomy Supplies	Thrombectomy device		Thrombectomy
FILTERS/CLOT EXTRACTION	Thrombectomy device		Thrombectomy
IVUS	IVUS catheter	Diagnostic IVUS IVC filter placement	Interventional IVUS
ULTRASOUND	IVUS catheter	Diagnostic IVUS	Interventional IVUS

Mac-Lab categories (subfolders)	ASCEND report finding	ASCEND procedure	ASCEND intervention
Beta Therapy	Brachytherapy device	Brachytherapy	
Brachytherapy	Brachytherapy device	Brachytherapy	
IABP IABP Accessories	IABP catheter	Intraaortic balloon counterpulsation	
Hemostasis Devices Hemostasis/Closure Devices CLOSURE DEVICES	Closure device	Vascular hemostasis Device closure (ASD/PFO, VSD)	
FILTERS/CLOT EXTRACTION	Device	IVC filter placement	Thrombectomy
EP Supplies EP Items	Pacer	Temporary pacing	

Medications and contrast

Medication route of administration

For medications, the import records the route of administration if it is a recognized term.

Name	Report finding
PO	oral
IV	intravenous
Subcut	subcutaneous
Nasal cannula	intranasal
Topical	transdermal
IA	Intra-arterial
SL	sublingual
IC	intracoronary

Medication units

Mac-Lab units	Report
g	g
mcg	mcg
mcg per kg per min	mcg/kg/min
mcg per min	mcg/min
mEq	mEq
mg	mg
ml	ml
ml/min	ml/min
ml per hr	ml/hr
l per min	L/min
units	units
units per hr	units/hr

Note: Medication entries without units will **NOT** import.

Local anesthetics

Local anesthetic medications that are not drip, import as a local anesthesia procedure with the volume injected. The medications imported as local anesthetics are:

- Xylocaine
- Lidocaine (Including Lidocaine w/ Epinephrinei, and Lidocaine Hydrochloride)
- Carbocaine
- Sensorcaine
- Bupivacaine

Any variation of concentrations is supported, whether they are recorded as a prefix or suffix to the agent name, e.g. 2% lidocaine or Lidocaine 2%.

The Hemo system does not separate the local anesthetics from other medications but they all export as Event_Medication.
- If any of the medications listed in the local anesthesia section export from the device **with a concentration and subcutaneous route**, the medications import as local anesthetics. If the **route is not subcutaneous**, the medications import as unlisted medications.
- If any of the medications listed in the local anesthesia section export from the device **without a concentration**, the medications import as unlisted medications.
- If any of the supported medications listed in the local anesthesia section export from the device **without a concentration AND any other supported route other than subcutaneous**, the medications import as medications.

Default list of complications

Seg	OBX type	Value of segment 5.1	Report finding
OBX	Event_Complication	No complications	No complications
OBX	Event_Complication	NO COMPLICATIONS	No complications
OBX	Event_Complication	None	No complications
OBX	Event_Complication	Vessel occlusion of access site	Vessel occlusion
OBX	Event_Complication	No distal pulse at access site	No distal pulse
OBX	Event_Complication	Arterial dissection	Dissection
OBX	Event_Complication	Dissection of access site	Dissection
OBX	Event_Complication	CORONARY EMBOLUS(air or thromb)	Unlisted
OBX	Event_Complication	Embolization	Embolization
OBX	Event_Complication	Peripheral emboli	Peripheral emboli
OBX	Event_Complication	Cholesterol emboli	Cholesterol emboli
OBX	Event_Complication	Pseudoaneurysm of access site	Pseudoaneurysm
OBX	Event_Complication	AV Fistula of access site	AV fistula
OBX	Event_Complication	Hematoma bleeding	Hematoma
OBX	Event_Complication	Hematoma at Access Site	Access site hematoma
OBX	Event_Complication	Retroperitoneal bleeding	Retroperitoneal
OBX	Event_Complication	External bleeding	External bleeding
OBX	Event_Complication	Periprocedural MI	Myocardial infarct
OBX	Event_Complication	Dissection	Vessel dissection
OBX	Event_Complication	Cardiogenic shock	Cardiogenic shock
OBX	Event_Complication	Congestive Heart Failure	CHF
OBX	Event_Complication	Tamponade	Tamponade
OBX	Event_Complication	PERICARDIAL TAMPONADE	Tamponade
OBX	Event_Complication	Hypotension	Hypotension
OBX	Event_Complication	Arrhythmia (NOS)	Arrhythmia
OBX	Event_Complication	OTHER ARRHYTHMIA REQ. TREATMENT	Arrhythmia
OBX	Event_Complication	Asystole	Asystole
OBX	Event_Complication	Atrial fibrillation	Atrial fibrillation

Seg	OBX type	Value of segment 5.1	Report finding
OBX	Event_Complication	Bradycardia	Bradycardia
OBX	Event_Complication	BRADYCARDIA requiring tx	Bradycardia
OBX	Event_Complication	Atrial Flutter	Atrial flutter
OBX	Event_Complication	Ventricular Tachycardia	VT
OBX	Event_Complication	Ventricular tachycardia	VT
OBX	Event_Complication	SVT	Supraventricular tachycardia
OBX	Event_Complication	Supraventricular Tachycardia	SVT
OBX	Event_Complication	Ventricular Fibrillation	VF
OBX	Event_Complication	Ventricular fibrillation	VF
OBX	Event_Complication	1st Degree Block	First degree heart block
OBX	Event_Complication	2nd Degree Block	Second degree heart block
OBX	Event_Complication	3rd Degree Block	Third degree heart block
OBX	Event_Complication	Second degree AV Block	2Â° AV block
OBX	Event_Complication	Third degree AV Block	3Â° AV block
OBX	Event_Complication	Contrast Reaction (Minor)	Contrast reaction
OBX	Event_Complication	DYE REACTION – MILD	Contrast reaction
OBX	Event_Complication	DYE REACTION – SEVERE	Contrast reaction
OBX	Event_Complication	Hypersensitivity (unspecified)	Allergic reaction
OBX	Event_Complication	TIA	TIA
OBX	Event_Complication	Cerebrovascular accident	CVA
OBX	Event_Complication	Bleeding (unspecified)	Bleeding
OBX	Event_Complication	Bleeding at Access Site	Access site bleeding
OBX	Event_Complication	Pneumothorax	Pneumothorax
OBX	Event_Complication	Respiratory failure/distress	Respiratory distress
OBX	Event_Complication	Renal failure	Renal failure
OBX	Event_Complication	DEATH	Death
OBX	Event_Complication	Death (unspecified)	Death
OBX	Event_Complication	Death due to infection	Death
OBX	Event_Complication	Cardiac Death	Cardiac
OBX	Event_Complication	Death due to valvular complication	Valvular
OBX	Event_Complication	Death due to vascular complication	Vascular
OBX	Event_Complication	Death due to renal complication	Renal
OBX	Event_Complication	Neurologic Death	Neurologic
OBX	Event_Complication	Death due to pulmonary complication	Pulmonary
OBX	Event_Complication	Vasovagal reaction	Vagal reaction
OBX	Event_Complication	Access Perforation, Extravasation	Perf, extravasation
OBX	Event_Complication	Access Perforation, No extravasation	Perf, no extra
OBX	Event_Complication	Anaphylaxis	Anaphylaxis
OBX	Event_Complication	Urticaria	Urticaria
OBX	Event_Complication	Angioedema	Angioedema
OBX	Event_Complication	Pulmonary Edema	Unlisted
OBX	Event_Complication	Emergency vascular surgery	Unlisted
OBX	Event_Complication	BUNDLE BRANCH BLOCK	Unlisted
OBX	Event_Complication	CARDIAC PERFORATION	Perforation
OBX	Event_Complication	CVA OR TIA (neurologic event)	Unlisted
OBX	Event_Complication	C.A.B.G. FOR FAILED PTCA	Unlisted
OBX	Event_Complication	ADVERSE REACTION TO SEDATION	Unlisted
OBX	Event_Complication	Adverse drug reaction	Unlisted

Scope of import from NCDR PCI 5.0 form

The ACC section of the Merge Hemo XML complies with the ACC NCDR CathPCI XML schema. Data in this section includes history and risk factors, blood lab results, prior procedure results, cath lab visit and procedure information, and lesion findings. The NCD CathPCI appendix of this document lists a subset of the ACC registry data elements supported in the import interface.

NCDR demographics

SeqNo	NCDR name	ASCEND report	Matching value
2070	Race - White	Race: White	1 - Yes
2071	Race - Black/African American	Race: Black	2 - Yes
2072	Race - Asian	Race: Asian	2 – Yes
2080	If Yes, Asian Indian	Race: Asian Indian	2 – Yes
2081	If Yes, Chinese	Race: Chinese	2 – Yes
2082	If Yes, Filipino	Race: Filipino	2 – Yes
2083	If Yes, Japanese	Race: Japanese	2 – Yes
2084	If Yes, Korean	Race: Korean	2 – Yes
2085	If Yes, Vietnamese	Race: Vietnamese	2 – Yes
2086	If Yes, Other	Race: Other Asian	2 – Yes
2073	Race - American Indian/Alaskan Native	Race: Native American	3 - Yes
2074	Native Hawaiian/Pacific Islander	Race: Native Hawaiian/Pacific Islander	2 - Yes
2090	If Yes, Native Hawaiian	Race: Native Hawaiian	2 - Yes
2091	If Yes, Guamanian or Chamorro	Race: Guamanian or Chamorro	2 - Yes
2092	If Yes, Samoan	Race: Samoan	2 - Yes
2093	If Yes, Other Island	Race: Other Pacific islander	2 - Yes
2076	Hispanic or Latino Ethnicity	Ethnicity: Hispanic	2 - Yes
2100	If Yes, Ethnicity Type: Mexican, Mexican-American, Chicano	Ethnicity: Hispanic, Mexican	1 - Yes
2101	If Yes, Ethnicity Type: Puerto Rican	Ethnicity: Puerto Rican	2 - Yes
2102	f Yes, Ethnicity Type: Cuban	Ethnicity: Cuban	3 - Yes
2103	If Yes, Ethnicity Type: Other Hispanic, Latino or Spanish Origin	Ethnicity: Hispanic, other	4 - Yes

NCDR episode of care

SeqNo	NCDR name	ASCEND report	Matching value
3020	Research Study	Purpose of study: Research study	Yes
3025	If Yes, Study Name	Text	Text
3030	Patient ID	Text	Text
3036	Patient Restriction	(In findings tab)	
	No	Patient data use is not restricted.	1 – No
	Yes	Patient data use is restricted.	2 – Yes

NCDR PCI history and risk factors

SeqNo	NCDR name	ASCEND report	Matching value
4287	Family Hx of Premature CAD	Prior history: Risk factors:	
	No	No family history of CAD	1 – No
	Yes	Family history of CAD	2 – Yes
4291	Prior MI	Prior history: PMH:	
	No	No prior myocardial infarction	1 – No
	Yes	Myocardial infarction	2 – Yes

Mac-Lab Hemo System Imported Data Elements 8.0 v1

SeqNo	NCDR name	ASCEND report	Matching value
4296	If Yes, Most Recent MI Date Date	Prior history: PMH: Myocardial infarction date <value>	 <value>
4495	Prior PCI No Yes	Labs, prior procedures: No prior PCI Prior PCI	 1 – No 2 – Yes
4501	If Yes, Left Main PCI No Yes	No prior left main percutaneous coronary intervention. Prior percutaneous coronary intervention and prior diagnostic coronary angiography procedure present. Prior percutaneous coronary intervention, prior left main percutaneous coronary intervention, and prior diagnostic coronary angiography procedure present.	1 – No 2 – Yes
4503	If Yes, Most Recent PCI Date	Date	Date
4515	Prior CABG No Yes	Labs, prior procedures: No prior CABG CABG	 1 – No 2 – Yes
4521	Most Recent CABG Date Date	Labs, prior procedures: CABG: date <value>	 <value>
4551	Cerebrovascular Disease No Yes	HPI and indications: No cerebrovascular disease Cerebrovascular disease	 1 – No 2 – Yes
4555	Diabetes Mellitus No Yes	Prior history: Risk factors: No diabetes Diabetes mellitus	 1 – No 2 – Yes
4560	Currently on Dialysis No Yes	Prior history: PMH: No dialysis usage Dialysis dependent	 1 – No 2 – Yes
4576	Chronic lung disease No Yes	HPI and indications: No chronic lung disease Known chronic lung disease	 1 – No 2 – Yes
4610	Peripheral Arterial Disease No Yes	HPI and indications: No peripheral arterial disease Known peripheral arterial disease	 1 – No 2 – Yes
4615	Hypertension No Yes	Prior history: Risk factors: No hypertension Hypertension	 1 – No 2 – Yes
4620	Dyslipidemia No Yes	Prior history: Risk factors: No dyslipidemia Dyslipidemia	 1 – No 2 – Yes
4625	Tobacco use Never Former Current-Every Day Current-Some Days Current-Frequency Unknown	Prior history: Risk factors: Nonsmoker Former tobacco user Current smoker--daily Current smoker—less than daily Current tobacco user	 1 2 3 4 5
4626	If Current, Tobacco Type Cigarettes Cigars Pipe Smokeless	Prior history: Risk factors: Cigarette smoker Cigars smoker Pipe smoker Chewing tobacco	 1 2 3 4
4627	If Current-Every Day and Cigarettes, Amount: Light tobacco use (<10/day) Heavy tobacco use (>=10/day)	Cigarette usage: Light Heavy	 1 2
4630	Cardiac Arrest Out of Hospital Yes	Prior history: PMH: Out of hospital	 2 – Yes

Mac-Lab Hemo System Imported Data Elements 8.0 v1

SeqNo	NCDR name		ASCEND report		Matching value
4631	If Yes, Arrest Witnessed		Prior history: PMH:		
		No		Unwitnessed	1 – No
		Yes		Witnessed	2 – Yes
4632	If Yes, Arrest After Arrival of EMS		Prior history: PMH:		
		No		Prior	1 – No
		Yes		After	2 – Yes
4633	If Yes, First Cardiac Arrest Rhythm		Prior history: PMH:		
		Shockable		Shockable	1
		Not shockable		Not shockable	2
4634	First Cardiac Arrest Rhythm Unknown		Prior history: PMH:		
		Yes		Unknown	2 – Yes
4635	Cardiac Arrest at transferring facility		Study data: There was no cardiac arrest at the		
		No	transferring facility		1 – No
		Yes	PMH: Cardiac arrest at the transferring facility.		2 – Yes

NCDR pre procedure information

SeqNo	NCDR name		ASCEND report		Matching value
4001	Heart Failure		HPI and indications:		
		No		No congestive heart failure	1 – No
		Yes		Congestive heart failure	2 – Yes
4011	If Yes, NYHA Class		HPI and indications: Congestive heart failure		
		Class I	Prior history: Functional status:		1
		Class II		NYHA class I	2
		Class III		NYHA class II	3
		Class IV		NYHA class III	4
				NYHA class IV	
4012	If Yes, Newly Diagnosed		HPI and indications:		
		No		Previously known CHF	1 – No
		Yes		Newly diagnosed CHF	2 – Yes
4013	If Yes, HF Type		HPI and indications:		
		Diastolic		Diastolic	1
		Systolic		Systolic	2
4014	Unknown		HPI and indications:		
		HF Type Unknown=Yes		Unknown CHF type	2 – Yes
5037	Electrocardiac Assessment Methods		Labs, prior procedures:		
		ECG		ECG: ECG assessment	1
		Telemetry Monitor		Telemetry	2
		Holter Monitor		Holter monitor	3
		None		No ECG assessment	5
5032	If any methods, Results		Labs, prior procedures:		
	[5037 ECG Method=ECG, Telemetry, Holter]:		[ECG assessment method]:		
		Normal		Normal	1
		Abnormal		Abnormal	2
		Uninterpretable		Uninterpretable	3
5033	If Abnormal, New Antiarrhythmic Therapy Initiated Prior to Cath Lab		Labs, prior procedures:		
	[5037 ECG Method=ECG, Telemetry, Holter]		[ECG assessment method]		
	[5032 ECG Results= Abnormal]:		[ECG results: Abnormal]:		
	New Antiarrhythmic Therapy Initiated=Yes		New antiarrhythmic therapy initiated		2 – Yes

SeqNo	NCDR name	ASCEND report	Matching value
5034	If Abnormal, Electrocardiac Abnormality Type [5037 ECG Method=ECG, Telemetry, Holter] [5032 ECG Results= Abnormal] ECG Abnormality Type:	Labs, prior procedures: [ECG assessment method] [ECG results: Abnormal] History and indications: ECG Abnormality type:	
	Ventricular Fibrillation (VF)	Ventricular fibrillation	1
	Sustained VT	Sustained ventricular tachycardia	2
	Non Sustained VT	Nonsustained ventricular tachycardia	3
	Exercise Induced VT	Ventricular tachycardia, during exercise	4
	T wave inversions	T Wave Inversions	5
	ST deviation >=0.5 mm	ST deviation >= 0.5 mm	6
	New Left Bundle Branch Block	New onset left bundle branch block	7
	New Onset Atrial Fib	New onset atrial fibrillation	8
	New Onset Atrial Flutter	New onset atrial flutter	9
	PVC-Frequent	Frequent ventricular ectopy	10
	PVC-Infrequent	Infrequent ventricular ectopy	11
	2nd Degree AV Heart Block Type 1	Type I 2° AV block	12
	2nd Degree AV Heart Block Type 2	Type II 2° AV block	13
	3rd Degree AV Heart Block	3° AV block	14
	Symptomatic Bradyarrhythmia	Symptomatic bradycardia	15
6011	If New Onset Atrial Fib, Heart Rate [5037 ECG Method=ECG, Telemetry, Holter] [5032 ECG Results= Abnormal] [5034 Abnormality Type = New Onset Atrial Fib]:	Labs, prior procedures: [ECG assessment method] [ECG results: Abnormal] History and indications: ECG Abnormality type: New onset atrial fib]	
	Heart Rate	HR <value> (bpm)	<value>
5036	If Non Sustained VT, Type Symptomatic Newly Diagnosed	Labs, prior procedures: [ECG assessment method] [ECG results: Abnormal] History and indications: ECG Abnormality type: Nonsustained ventricular tachycardia Symptomatic, nonsustained ventricular tachycardia New onset, nonsustained ventricular tachycardia	Symptomatic - 1 Newly Diagnosed - 2
5200	StressTestPerformed	No prior stress test.	No
5201	Test Type Performed	Labs, prior procedures:	
	Exercise Stress Test (w/o imaging)	Stress test	2 – Yes
	Stress Echocardiogram	Stress echocardiogram	2 – Yes
	Stress Nuclear	Stress nuclear imaging	2 – Yes
	Stress Imaging w/CMR	Stress test with CMR	2 – Yes
5202	Test Results [5201 Test Type=Exercise Stress, Stress Echo, Stress Nuc, Stress w/CMR] Test Results:	Labs, prior procedures: [Stress test type] Results:	
	Negative	Negative	1
	Positive	Positive	2
	Indeterminate	Indeterminate	3
	Unavailable	Unavailable	4

SeqNo	NCDR name	ASCEND report	Matching value
5203	If Positive, Risk/Extent of Ischemia [5201 Test Type=Exercise Stress, Stress Echo, Stress Nuc, Stress w/CMR] [5202 Test Results=Positive] Risk/Extent of Ischemia: Low High Intermediate Unavailable	Labs, prior procedures: [Stress test type] [Test Results=Positive] Risk/Extent of Ischemia: Low High Moderate Unavailable	 1 2 3 4
5204	Most Recent Date Exercise Stress Test (w/o imaging) date Stress Echocardiogram date Stress Nuclear date Stress Imaging w/CMR date	Labs, prior procedures: Stress test: date <value> Stress echocardiogram: date <value> Stress nuclear imaging: date <value> Stress test with CMR: date <value>	 <value> <value> <value> <value>
5220	Cardiac CTA Performed No Yes	Labs, prior procedures: No prior cardiac CTA Cardiac CTA	 1 – No 2 – Yes
5226	If Yes, Most Recent CTA Date Date	Labs, prior procedures: Cardiac CTA: date <value>	 <value>
5227	If Yes, CTA Results Obstructive CAD Non-Obstructive CAD Unclear Severity No CAD Structural Disease	Labs, prior procedures: Cardiac CTA: obstructive coronary artery disease non-obstructive coronary artery disease coronary artery disease no coronary artery disease structural cardiac disease	 1 2 3 4 5
5228	Unknown Cardiac CTA Results Unknown=Yes	Labs, prior procedures: Cardiac CTA: Study unavailable	 2 – Yes
5255	If Yes, Agatston Coronary Calcium Score [5256 Agatston Coronary Calcium Score Assessed=Yes] <value>	Labs, prior procedures: Cardiac computed tomography. Agatston score <value>	 <value>
5256	Agatston Coronary Calcium Score Assessed:(5256) No Yes	Labs, prior procedures: No Agatston coronary calcium score. Cardiac computed tomography. Agatston calcium score present	 1 – No 2 – Yes
5257	If any value, Most Recent Calcium Score Date Date	Labs, prior procedures: Cardiac computed tomography: date <value>	 <value>
5111	LVEF Assessed No Yes	Labs, prior procedures: No previous LVEF assessment Previous LVEF assessment	 1 – No 2 – Yes
5116	If Yes, Most Recent LVEF <value>	Prior history: Functional status: LVEF <value> %	 <value>
5263	Prior Dx Coronary Angiography Procedure No Yes	No prior diagnostic coronary angiography procedure Prior diagnostic coronary angiography procedure present	 1 – No 2 – Yes

NCDR procedure information

SeqNo	NCDR name	ASCEND report	Matching value

SeqNo	NCDR name	ASCEND report	Matching value
7065	Concomitant Procedures Performed No	Study data: Concomitant procedures: None	1 - No
7340	Cardiac Arrest at this facility Yes	Prior history: PMH: In-hospital cardiac arrest	2 – Yes

Labs

NCDR PCI blood lab results

SeqNo	NCDR name	ASCEND report	Matching value
6030	Pre-Hemoglobin <value>	Labs, prior procedures: Hemoglobin pre-procedure <value> g/dl	<value>
6031	Pre-Hemoglobin: Not Drawn No Yes	Labs, prior procedures: Hemoglobin pre-procedure drawn Hemoglobin pre-procedure not drawn	1 – No 2 – Yes
6050	Pre-Creatinine <value>	Labs, prior procedures: Creatinine pre-procedure <value> mg/dl	<value>
6051	Pre-Creatinine: Not Drawn No Yes	Labs, prior procedures: Creatinine pre-procedure drawn Creatinine pre-procedure not drawn	1 – No 2 – Yes
6090	Pre-Troponin I <value>	Labs, prior procedures: Troponin I pre-procedure <value> ng/ml	<value>
6091	Pre-Troponin I: Not Drawn No Yes	Labs, prior procedures: Troponin I pre-procedure drawn Troponin I pre-procedure not drawn	1 – No 2 – Yes
6095	Pre-Troponin T <value>	Labs, prior procedures: Troponin T pre-procedure <value> ng/ml	<value>
6096	Pre-Troponin T: Not Drawn No Yes	Labs, prior procedures: Troponin T pre-procedure drawn Troponin T pre-procedure not drawn	1 – No 2 – Yes
6100	Total Cholesterol <value>	Labs, prior procedures: Total cholesterol pre-procedure <value> mg/dl	<value>
6101	Total Cholesterol: Not Drawn No Yes	Labs, prior procedures: Total cholesterol pre-procedure drawn Total cholesterol pre-procedure not drawn	1 – No 2 – Yes
6105	HDL <value>	Labs, prior procedures: HDL cholesterol pre-procedure <value> mg/dl	<value>
6106	HDL: Not Drawn No Yes	Labs, prior procedures: HDL cholesterol pre-procedure drawn HDL cholesterol pre-procedure not drawn	1 – No 2 – Yes
8515	Post-Troponin I <value>	Labs, prior procedures: Troponin I post -procedure <value> ng/ml	<value>
8516	Post-Troponin I: Not Drawn No Yes	Labs, prior procedures: Troponin I post-procedure drawn Troponin I post-procedure not drawn	1 – No 2 – Yes
8520	Post-Troponin T <value>	Labs, prior procedures: Troponin T post -procedure <value> ng/ml	<value>
8521	Post-Troponin T: Not Drawn No Yes	Labs, prior procedures: Troponin T post-procedure drawn Troponin T post-procedure not drawn	1 – No 2 – Yes
8510	Post-Creatinine: (peak) <value>	Labs, prior procedures: Creatinine post-procedure <value> mg/dl	<value>

SeqNo	NCDR name	ASCEND report	Matching value
8511	Post-Creatinine: (peak) Not Drawn No Yes	Labs, prior procedures: Creatinine post-procedure drawn Creatinine post-procedure not drawn	 1 – No 2 – Yes
8505	Post-Hemoglobin: (lowest w/in 72 hours) <value>	Labs, prior procedures: Hemoglobin post-procedure <value> g/dl	 <value>
8506	Post-Hemoglobin: Not Drawn No Yes	Labs, prior procedures: Hemoglobin post-procedure drawn Hemoglobin post-procedure not drawn	 1 – No 2 – Yes

NCDR PCI cath lab visit

SeqNo	NCDR name	ASCEND report	Matching value
7405	Chest Pain Symptom Assessment Typical Angina Atypical Angina Non-anginal Chest Pain	HPI and indications: Typical anginal Atypical Nonanginal chest pain	 1 2 3
7415	Cardiovascular Instability *If Yes, Cardiovascular Instability Type Persistent Ischemic Symptoms (chest pain,STE) Hemodynamic Instability (not cardiogenic shock) Cardiogenic Shock Acute Heart Failure Symptoms Refractory Cardiogenic Shock	History and indications: Persistent angina pectoris. Hemodynamic instability without shock. Cardiogenic shock Cardiovascular instability, with acute heart failure symptoms Refractory cardiogenic shock.	 1 2 4 5 6

NCDR PCI coronary anatomy

SeqNo	NCDR name	ASCEND report	Matching value
7500	Dominance Left Right Co-dominant	Coronary arteries: Left Right Codominant	 1 2 3

NCDR PCI procedure

SeqNo	NCDR name	ASCEND report	Matching value
7800	PCI Status Elective Urgent Emergent Salvage	Study data: Study status: PCI Status: Elective Urgent Emergent Salvage	 1 2 3 4
7806	Hypothermia Induced No	Prior history: Risk factors: Hypothermia not induced	 1 – No
7807	If Yes, Timing of Hypothermia Initiated Pre-PCI, <=6 hrs post cardiac arrest Initiated Pre-PCI, >6 hrs post cardiac arrest Post PCI	Prior history: Risk factors: Pre-PCI, ≤6 hours post arrest Pre-PCI, >6 hours post arrest Post PCI	 1 2 3

SeqNo	NCDR name	ASCEND report	Matching value
7810	Level of Consciousness	Prior history: Functional status:	
	Alert	AVPU scale A, alert.	1 - (A) Alert
	(V) Verbal	AVPU scale V, responding to verbal stimuli.	2 - (V) Verbal
	(P) Responding to Painful Stimuli	AVPU scale P, responding to painful stimuli.	3 - (P) Pain
	(U) Unresponsive	AVPU scale U, unresponsive.	4 - (U) Unresponsive
	Unable to assess	Unable to assess AVPU scale.	5 - Unable to Assess
7815	Decision for PCI with Surgical Consult	Study data:	
	No	No surgical consult obtained	1 – No
7816	If Yes, CV Treatment Decision	Study data:	
	Surgery Not Recommended	Surgery not recommended	1
	Surgery Recommended, Patient/Family Declined	Surgery recommended, declined	2
	Surgery Recommended, Patient/Family Accepted (Hybrid procedure)	Surgery recommended, accepted	3
7820	PCI for Multi-vessel Disease	Study data: Study status: PCI Status:	
	No	Single vessel procedure	1 – No
7821	If Yes, Multi-vessel Procedure Type	Study data: Study status: PCI Status:	
	Initial PCI	Initial PCI	1
	Staged PCI	Staged PCI	2

Lesions and devices

NCDR PCI lesions and devices: coronary arteries

SeqNo	NCDR name	ASCEND report	Matching value
8002	If PCI Indication(7825) is STEMI or NSTE-ACS: Culprit Stenosis:(8002) [8003 Culprit Stenosis Unknown=No, Unanswered]	Coronary arteries: Vessel: Lesion:	
	Culprit Stenosis=No	Not the culprit lesion	1 – No
	Culprit Stenosis=Yes	Likely the culprit lesion	2 – Yes
8004	Stenosis Immediately Prior to Rx	Coronary arteries: Vessel: Lesion:	
	<value>	<value> % stenosis	<value>
8005	If 100%, Chronic Total Occlusion: [8006 Chronic Total Occlusion Unknown=No, Unanswered]	Coronary arteries: Vessel: Lesion:	
	Chronic Total Occlusion=No	100% acute total occlusion	1 – No
	Chronic Total Occlusion=Yes	100% chronic total occlusion	2 – Yes
8006	Unknown [8004 Stenosis Immediately Prior to Rx=100%]	Coronary arteries: Vessel: Lesion:	
	Chronic Total Occlusion Unknown=No	100% chronic total occlusion	1 – No
	Chronic Total Occlusion Unknown=Yes	occlusion	2 – Yes
8010	If Yes, Treated with Stent [8008 Previously Treated Lesion=Yes]	Coronary arteries: Vessel: Lesion:	
	If Yes, Treated with Stent=Yes	Prior intervention: Stent	2 – Yes
8011	In-Stent Restenosis [8008 Previously Treated Lesion=Yes] [8010 If Yes, Treated with Stent=Yes]	Coronary arteries: Vessel: Lesion:	
	In-Stent Restenosis= Yes	In-stent recurrent stenosis	2 – Yes
8012	In-Stent Thrombosis [8008 Previously Treated Lesion=Yes] [8010 If Yes, Treated with Stent=Yes]	Coronary arteries: Vessel: Lesion:	
	In-Stent Thrombosis= Yes	In-stent recurrent thrombosis	2 – Yes

SeqNo	NCDR name	ASCEND report	Matching value
8013	Stent Type [8008 Previously Treated Lesion=Yes] [8010 If Yes, Treated with Stent=Yes] [8014 Stent Type Unknown=No, Unanswered] Stent Type=DES Stent Type= Bioabsorbable Stent Type=BMS	Coronary arteries: Vessel: Lesion: Prior intervention: drug-eluting stent Prior intervention: bioabsorbable stent Prior intervention: bare metal stent	 1 2 3
8020	Lesion Length <value>	Coronary arteries: Vessel: Lesion: <value> mm (L) stenosis	 <value>
8021	Severe Calcification Yes	Coronary arteries: Vessel: Lesion: Lesion heavily calcified	 2 – Yes
8022	Bifurcation Lesion No Yes	Coronary arteries: Vessel: Lesion: Not a bifurcation lesion Bifurcation lesion	 1 – No 2 – Yes

Lesions and devices

NCDR PCI lesions and devices: grafts

SeqNo	NCDR name	ASCEND report	Matching value
8002	If PCI Indication(7825) is STEMI or NSTE-ACS: Culprit Stenosis:(8002) [8003 Culprit Stenosis Unknown=No, Unanswered] Culprit Stenosis=No Culprit Stenosis=Yes	Coronary grafts: Graft: Lesion: Not the culprit lesion Likely the culprit lesion	 1 – No 2 – Yes
8004	Stenosis Immediately Prior to Rx <value>	Coronary grafts: Graft: Lesion: <value> stenosis %	 <value>
8005	If 100%, Chronic Total Occlusion: [8006 Chronic Total Occlusion Unknown=No, Unanswered] Chronic Total Occlusion=Yes	Coronary grafts: Graft: Lesion: 100% acute total occlusion 100% chronic total occlusion	 1 – No 2 – Yes
8006	Unknown [8004 Stenosis Immediately Prior to Rx=100%] Chronic Total Occlusion Unknown=No Chronic Total Occlusion Unknown=Yes	Coronary grafts: Graft: Lesion: 100% chronic total occlusion occlusion	 1 – No 2 – Yes
8010	If Yes, Treated with Stent [8008 Previously Treated Lesion=Yes] If Yes, Treated with Stent=Yes	Coronary grafts: Graft: Lesion: Prior intervention: Stent	 2 – Yes
8011	In-Stent Restenosis [8008 Previously Treated Lesion=Yes] [8010 If Yes, Treated with Stent=Yes] In-Stent Restenosis= Yes	Coronary grafts: Graft: Lesion: In-stent recurrent stenosis	 2 – Yes
8012	In-Stent Thrombosis [8008 Previously Treated Lesion=Yes] [8010 If Yes, Treated with Stent=Yes] In-Stent Thrombosis= Yes	Coronary grafts: Graft: Lesion: In-stent recurrent thrombosis	 2 – Yes
8013	Stent Type [8008 Previously Treated Lesion=Yes] [8010 If Yes, Treated with Stent=Yes] [8014 Stent Type Unknown=No, Unanswered] Stent Type=DES Stent Type= Bioabsorbable Stent Type=BMS	Coronary grafts: Graft: Lesion: Prior intervention: drug-eluting stent Prior intervention: bioabsorbable stent Prior intervention: bare metal stent	 1 2 3

SeqNo	NCDR name		ASCEND report		Matching value
8020	Lesion Length	<value>	Coronary grafts: Graft: Lesion:	<value> mm (L) stenosis	<value>
8021	Severe Calcification	Yes	Coronary grafts: Graft: Lesion:	Lesion heavily calcified	2 – Yes
8022	Bifurcation Lesion	No	Coronary grafts: Graft: Lesion:	Not a bifurcation lesion	1 – No
		Yes		Bifurcation lesion	2 – Yes

Peripheral artery and graft sites

Vessel segment (OBX 5.2)	(OBX 5.22)
Common iliac	Right Upper Leg
Prox com iliac	Right Upper Leg
Prox common iliac	Right Upper Leg
Internal iliac	Right Upper Leg
External iliac	Right Upper Leg
Prox external iliac	Right Upper Leg
Mid external iliac	Right Upper Leg
Common Femoral	Right Upper Leg
Prox com femoral	Right Upper Leg
Deep femoral	Right Upper Leg
Prox deep femoral	Right Upper Leg
Mid deep femoral	Right Upper Leg
Distal deep femoral	Right Upper Leg
Superficial Femoral	Right Upper Leg
Prox sup femoral	Right Upper Leg
Mid sup femoral	Right Upper Leg
Distal sup femoral	Right Lower Leg
Anterior tibial	Right Lower Leg
Distal anterior tibial	Right Lower Leg
Popliteal	Right Lower Leg
Peroneal	Right Lower Leg
Prox peroneal	Right Lower Leg
Mid peroneal	Right Lower Leg
Tibio-peroneal trunk	Right Lower Leg
Common iliac	Left Upper Leg
Prox com iliac	Left Upper Leg
Prox common iliac	Left Upper Leg
Internal iliac	Left Upper Leg
External iliac	Left Upper Leg
Prox external iliac	Left Upper Leg
Mid external iliac	Left Upper Leg
Common Femoral	Left Upper Leg
Prox com femoral	Left Upper Leg
Deep femoral	Left Upper Leg
Prox deep femoral	Left Upper Leg
Mid deep femoral	Left Upper Leg
Distal deep femoral	Left Upper Leg
Superficial Femoral	Left Upper Leg
Prox sup femoral	Left Upper Leg
Mid sup femoral	Left Upper Leg

Vessel segment (OBX 5.2)	(OBX 5.22)
Distal sup femoral	Left Lower Leg
Anterior tibial	Left Lower Leg
Distal anterior tibial	Left Lower Leg
Popliteal	Left Lower Leg
Peroneal	Left Lower Leg
Prox peroneal	Left Lower Leg
Mid peroneal	Left Lower Leg
Tibio-peroneal trunk	Left Lower Leg
Axillary	Right Arm
Prox Axillary	Right Arm
Mid Axillary	Right Arm
Distal Axillary	Right Arm
Brachial	Right Arm
Prox Brachial	Right Arm
Mid Brachial	Right Arm
Distal Brachial	Right Arm
Radial	Right Arm
Prox Radial	Right Arm
Mid Radial	Right Arm
Distal Radial	Right Arm
Ulnar	Right Arm
Prox Ulnar	Right Arm
Mid Ulnar	Right Arm
Distal Ulnar	Right Arm
Axillary	Left Arm
Prox Axillary	Left Arm
Mid Axillary	Left Arm
Distal Axillary	Left Arm
Brachial	Left Arm
Prox Brachial	Left Arm
Mid Brachial	Left Arm
Distal Brachial	Left Arm
Radial	Left Arm
Prox Radial	Left Arm
Mid Radial	Left Arm
Distal Radial	Left Arm
Ulnar	Left Arm
Prox Ulnar	Left Arm
Mid Ulnar	Left Arm
Distal Ulnar	Left Arm
Right subclavian	Subclavian/Innominate
Ostial right sub	Subclavian/Innominate
Prox right sub	Subclavian/Innominate
Mid right sub	Subclavian/Innominate
Distal 46ight sub	Subclavian/Innominate
Left subclavian	Subclavian/Innominate

Vessel segment (OBX 5.2)	(OBX 5.22)
Ostal left sub	Subclavian/Innominate
Prox left sub	Subclavian/Innominate
Mid left sub	Subclavian/Innominate
Distal left sub	Subclavian/Innominate
Innominate	Subclavian/Innominate
Right Renal	Renal
Prox right renal	Renal
Mid right renal	Renal
Distal right renal	Renal
Left Renal	Renal
Prox left renal	Renal
Mid left renal	Renal
Distal left renal	Renal
Superior Mesenteric	Abdominal
Superior Mesentaric	Abdominal
Inferior Mesenteric	Abdominal
Inferior Mesentaric	Abdominal
Splenic	Abdominal
Hepatic	Abdominal
Celiac	Splanchnic
Celiac origin	Splanchnic
IMA	Splanchnic
IMA origin	Splanchnic
SMA	Splanchnic
SMA origin	Splanchnic
Basilar	Basilar
Proximal Basilar	Basilar
Mid Basilar	Basilar
Distal Basilar	Basilar
Right com carotid	Common Carotid
Ostial right	Common Carotid
Prox right	Common Carotid
Mid right	Common Carotid

Vessel segment (OBX 5.2)	(OBX 5.22)
Distal right	Common Carotid
Left com carotid	Common Carotid
Ostial left	Common Carotid
Prox left	Common Carotid
Mid left	Common Carotid
Distal left	Common Carotid
Right ext carotid	External Carotid
Ostial right	External Carotid
Prox right	External Carotid
Mid right	External Carotid
Distal right	External Carotid
Left ext carotid	External Carotid
Ostial left	External Carotid
Prox left	External Carotid
Mid left	External Carotid
Distal left	External Carotid
Right int carotid	Internal Carotid
Ostial right	Internal Carotid
Prox right	Internal Carotid
Mid right	Internal Carotid
Distal right	Internal Carotid
Left int carotid	Internal Carotid
Ostial left	Internal Carotid
Prox left	Internal Carotid
Mid left	Internal Carotid
Distal left	Internal Carotid
Right vertebral	Vertebral
Ostial right	Vertebral
Proximal right	Vertebral
Mid right	Vertebral
Distal right	Vertebral
Left vertebral	Vertebral
Ostial left	Vertebral
Proximal left	Vertebral
Mid left	Vertebral
Distal left	Vertebral

Medications – default List

OBX 5.1	Report name
abciximab	Abciximab
reopro	Abciximab
acebutolol	Acebutolol
acyclovir	Acyclovir
adenosine	Adenosine
ajmaline	Ajmaline
alfentanil	Alfentanil
alteplase	Alteplase
amikacin	Amikacin
amiodarone	Amiodarone
amlodipine	Amlodipine
norvasc	Amlodipine
amoxicillin	Amoxicillin
amphotericin	Amphotericin
ampicillin	Ampicillin
argatroban	Argatroban
aspirin	Aspirin
asa	Aspirin
atenolol	Atenolol
atropine	Atropine
azimilide	Azimilide
vasopressin	Vasopressin
azithromycin	Azithromycin
benztropine	Benztropine
bepridil	Bepridil
bisoprolol	Bisoprolol
bivalirudin	Bivalirudin
angiomax	Bivalirudin
bretylium	Bretylium
bretylol	Bretylium
buclizine	Buclizine
buprenorphine	Buprenorphine
calcium carbonate	Calcium carbonate
calcium chloride	Calcium chloride
calcium gluconate	Calcium gluconate
carvedilol	Carvedilol
ancef	Cefazolin
cefazolin	Cefazolin
cefprozil	Cefprozil
cefuroxime	Cefuroxime
cephalexin	Cephalexin
cetirizine	Cetirizine
chloral hydrate	Chloral hydrate
chlorpromazine	Chlorpromazine
ciprofloxacin	Ciprofloxacin
clarithromycin	Clarithromycin
clindamycin	Clindamycin
clopidogrel	Clopidogrel
co-trimoxazole	Co-trimoxazole
cyclizine	Cyclizine
d5/0.45	D5/0.45

OBX 5.1	Report name
d 5 w	D5W
d5w	D5W
dalteparin	Dalteparin
desloratadine	Desloratadine
dexamethasone	Dexamethasone
diazepam	Diazepam
digoxin	Digoxin
lanoxin	Digoxin
cardizem	Diltiazem
diltiazem	Diltiazem
dimenhydrinate	Dimenhydrinate
benadryl	Diphenhydramine
diphenhydramine	Diphenhydramine
dipyridamole	Dipyridamole
disopyramide	Disopyramide
dobutamine	Dobutamine
dofetilide	Dofetilide
dolasetron	Dolasetron
dopamine	Dopamine
doxycycline	Doxycycline
droperidol	Droperidol
inapsine	Droperidol
edrophonium	Edrophonium
encainide	Encainide
enoxaparin	Enoxaparin
lovenox	Enoxaparin
adrenaline	Epinephrine
epinephrine	Epinephrine
eptifibatide	Eptifibatide
integrilin	Eptifibatide
erythromycin	Erythromycin
esmolol	Esmolol
etomidate	Etomidate
etomidate_inactive	Etomidate
felodipine	Felodipine
fentanyl	Fentanyl
sublimaze	Fentanyl
fexofenadine	Fexofenadine
flecainide	Flecainide
fluconazole	Fluconazole
flumazenil	Flumazenil
romazicon (flumazenil)	Flumazenil
romazicon	Flumazenil
fondiparinux	Fondiparinux
lasix	Furosemide
ganciclovir	Ganciclovir
gatifloxacin	Gatifloxacin
gentamicin	Gentamicin
glycopyrrolate	Glycopyrrolate
granisetron	Granisetron

OBX 5.1	Report name
haloperidol	Haloperidol
heparin	Heparin
hydralazine	Hydralazine
hydralazine hcl	Hydralazine
hydrocortisone	Hydrocortisone
cortisol	Hydrocortisone
hydromorphone	Hydromorphone
dilaudid	Hydromorphone
hydroxyzine	Hydroxyzine
ibutilide	Ibutilide
isoproterenol	Isoproterenol
isuprel	Isoproterenol
isoprenaline	Isoproterenol
isosorbide dinitrate	Isosorbide dinitrate
isosorbide mono	Isosorbide mono
isradipine	Isradipine
ketamine	Ketamine
ketoconazole	Ketoconazole
labetalol	Labetalol
labetolol	Labetalol
lepirudin	Lepirudin
levofloxacin	Levofloxacin
lidocaine	Lidocaine
xylocaine	Lidocaine
lidocaine (antiarrhythmic)	Lidocaine
lidocaine hydrochloride	Lidocaine
loratadine	Loratadine
lorazepam	Lorazepam
magnesium oxide	Magnesium oxide
magnesium sulfate	Magnesium sulfate
meclizine	Meclizine
meperidine	Meperidine
demerol	Meperidine
methohexital	Methohexital
methylprednisolone	Methylprednisolone
solu medrol	Methylprednisolone
metoclopramide	Metoclopramide
reglan	Metoclopramide
reglan (metoclopramide)	Metoclopramide
metoprolol	Metoprolol
lopressor	Metoprolol
toprol	Metoprolol
metronidazole	Metronidazole
mexiletine	Mexiletine
midazolam	Midazolam
versed	Midazolam
midodrine	Midodrine
milrinone	Milrinone
minocycline	Minocycline
minoxidil	Minoxidil
moricizine	Moricizine
morphine	Morphine

OBX 5.1	Report name
nadolol	Nadolol
nadroparin	Nadroparin
nalbuphine	Nalbuphine
naloxone	Naloxone
narcan (naloxone hydorchloride)	Naloxone
netilmicin	Netilmicin
nicardipine	Nicardipine
cardene	Nicardipine
nicardene	Nicardipine
nifedipine	Nifedipine
procardia	Nifedipine
nimodipine	Nimodipine
nitrofurantoin	Nitrofurantoin
nitroglycerin	Nitroglycerin
ntg	Nitroglycerin
nitro paste	Nitroglycerin
nitroprusside	Nitroprusside
nipride	Nitroprusside
norepinephrine	Norepinephrine
levophed	Norepinephrine
ondansetron	Ondansetron
zofran (ondansetron)	Ondansetron
zofran	Ondansetron
oxybutynin	Oxybutynin
papaverine	Papaverine
phenytoin	Phenytoin
pindolol	Pindolol
potassium chloride	Potassium chloride
prednisolone	Prednisolone
prednisone	Prednisone
procainamide	Procainamide
compazine (prochlorperazine)	Prochlorperazine
prochlorperazine	Prochlorperazine
promethazine	Promethazine
phenergan	Promethazine
propafenone	Propafenone
propofol	Propofol
diprivan	Propofol
propranolol	Propranolol
inderal	Propranolol
protamine	Protamine
quinidine gluconate	Quinidine gluconate
quinidine sulfate	Quinidine sulfate
lexiscan	Regadenoson (Lexiscan)
reteplase	Reteplase
ribavirin	Ribavirin
ns	Saline
scopolamine	Scopolamine
sodium bicarbonate	Sodium bicarbonate
sodium bicarb	Sodium bicarbonate

OBX 5.1	Report name
sotalol	Sotalol
streptokinase	Streptokinase
succinylcholine	Succinylcholine
sufentanil	Sufentanil
tenecteplase	Tenecteplase
tetracycline	Tetracycline
theophylline	Theophylline
aminophylline	Theophylline
thiopental	Thiopental
ticlopidine	Ticlopidine
timolol	Timolol
tinzaparin	Tinzaparin
tirofiban	Tirofiban
tocainide	Tocainide
urokinase	Urokinase
valacyclovir	Valacyclovir
vancomycin	Vancomycin
verapamil	Verapamil
warfarin	Warfarin
oxygen	Oxygen
bupivacaine	Bupivacaine
sensorcaine .25%	Bupivacaine

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