# Cupid Expansion Non-Invasive Exercise Booklet

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# Cupid Expansion Non-Invasive

Cupid Expansion is expanding the workflow and functionality of Cardiology users. The coronary toolset offering both invasive and non-invasive functionality will guide structured reporting.

The exercises below introduce the basic functionality and aesthetic of the Non-Invasive module used for resulting and documentation. Study documentation practice in this exercise includes:

- 1. 2D Echocardiogram Documentation
- 2. Vascular Study
- 3. Transesophogeal Echo (TEE)

Overall documentation functionality is the same regardless of study performed. The Reading Palette is the same for the Tech, Sonographer and Provider.

Exercises are to be completed in the Hyperspace PLY environment. DO NOT ATTEMPT to use your production credentials in the Hyperspace PLY environment. Log in credentials are provided below. If you have selected a training patient on which documentation has been completed, simply close the chart and select another patient.

# Hyperspace Playground Instructions

The exercises below will be completed in the Playground (PLY) training environment. To access PLY:

1. From the Citrix Receiver window, click to launch Hyperspace PLY.



If Citrix Receiver is not visible on your device:

- Navigate to the toolbar located on the bottom of the screen OR use the search tool, bottom left, to search for Citrix Receiver.
- Click the 'show hidden icons' on the lower right side of the tool bar, then click the Citrix Receiver icon
- Click to open Hyperspace Playground.

If PLY is not visible upon Citrix launch, click the "+" sign in the Citrix window. Scroll the list and left click to select PLY.

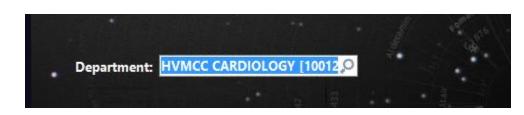
- 2. Enter the training Login ID in the User ID field with the password of 'train'.
  - The training Login ID's are consecutive between TRN24760 and TRN24784.



**3**. Verify the defaulting department and click Continue and/or Ok until the home screen (i.e. Provider Planner) displays.

The defaulted department for training should be "**HVMCC Cardiology**". If not, after confirming that you've logged in using the correct ID, click the search tool to locate and select **HVMCC Cardiology**.

Dept:



You are now logged into Hyperspace PLY. Click 'Ok' and/or 'Continue' to clear Task reminders, etc.

Again, if your chart displays as Read-only, select another log in from those provided.

The exercises below facilitate both guided and self-guided practice.

# Overview

## To document:

Locate and launch the Reading Work List (RWL) using one of the 3 pathways listed below:

1 The EPIC toolbar	Epic - CHome 🍃 PtLookup/Chart 🖃 In Basket 🤻 Remind Ne 🛔 Novant Intr	Hyperspace - H
2 Underneath the che	vron(s) within the workspace	
		ncounters ☎60
3 Via search using the	e search field in the upper right cor	Screen Reader Mode

1. The Reading Work List Report Settings window populates, arranged by facility and location. For example, a user needing to review echo studies performed at PMC would select the PMC Cardiology RWL and Run to launch that specific list.

In addition to a worklist for a specific location, the user may:

- Select **My Studies All Locations** to view studies assigned to the user.
- Select **My Pools' Studies All locations** to view all studies assigned to physicians within a pool.
  - Exercise 1 below will use **My Pools' Studies** to complete documentation for a patient on the RWL.

Selecting **My Default** in the lower left corner of the Reading Work List Report Settings window, places 'priority' on that selection. This causes the designated list to auto populate each time RWL is launched. (See image below). To activate My Default, select a worklist, then select the checkbox beside 'My default'. Click **Run**. Double clicking a selection will also launch the list.

• Remove designated list priority by deselecting 'My default'.

	Reading Work List Report Setting	s
Available Settings	Criteria Eilter Display Appearance Print Layou	ut <u>G</u> eneral
MHMC PFT Lab [7300120] MMC Continuous EEG [3615 MMC CV Cath & EP RWL [7 MMC Neurodiagnostics [371 MMC NIV Cardiology [35935	Physician ☐ Logged in user ☐ Include signed studies	Resident
MMC PFT Lab [35623] My Pools' Studies - All Loca My Studies - All Locations [6 NH RAD Imaging [7027391] NVA CV Cath & EP RWL [7]	Study Status Group orders	Pool Following pools
<ul> <li>NVA CV Device Check RWL</li> <li>NVA CV Echo RWL [730892</li> <li>NVA CV Nuc Med RWL [730</li> <li>NVA CV Vascular RWL [730</li> <li>NVA CV Vascular RWL [730</li> </ul>	Order Type Imaging orders  ☐ All	Modality Type
Pediatric Neurology RWL [51 PMC BOTOX RWL [35185] PMC Cardiology RWL [34121 PMC Continuous EEG RWL PMC CV Cath & EP RWL [7] PMC CV Cath & EP RWL [7] PMC CV Cath	Performing Department Cogin Dept	Location All
PMC Neurology RWL [22616 #     PMC Pulmonology RWL [221     PWMC Cardiology RWL [724     PWMC CV Cath & EP RWL     PWMC Neurology RWL [774     PWMC Neurology RWL [774     PWMC Pulmonology RWL [794     PWMC Pulmo	Procedure Procedure Cate	Gory All Anatomical Region
My default	Bun	Delete Restore <u>Print</u> <u>Cancel</u>

If a work list is selected in error, click **Views** located above the patient names to select the desired option from the resulting list.

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	6	-		<b>6</b> .			P		9			R		E	h		~			0		
Re	est	h	Vie			Stur	Review	St	tudy <u>H</u>	story		sign	R	eading	g Mode	Ť (	Sign Stu	dy Re	ecent Stu	dies	Report	
Pri	s	С	***	Setti	ngs								GH	UCKE	RWL					1	MMC CV Cath & EP RWL	
	8	六		вмс	Car	dioloa	V RWL						GH	UCKV	RWL						MMC Neurodiagnostics	
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_				вмс	Rad	iology	RWL						GH	UCMA	TRWL		0.1				MMC PFT Lab	
	8	*		Dr. S	pand	ethal'	s PFT P	atie	ints				GH	UCM	RWL		Selec				ly Pools' Studies - All Locations	
	8	杀		Dr. S	stern's	B PFT	Patient	8					GH	UCNF	RWL	1.8	s des		ted bj nark.	уа	My Studies - All Locations	1
_	-			FMC	Con	tinuou	IS EEG	RW	L				GH	UCQH	RWL		Che	BCK	nark.		NH RAD Imaging	
	•	~		FMC	cvo	Cath &	EPRW	n_					GH	ucso	RWL	L	_eft cl	lick te	م مواد	act	NVA CV Cath & EP RWL	
	8	*		FMC	Neu	rodiag	nostics						GH	UCW	RWL	1.		othe			NVA CV Device Check RWL	1
_				FMC		Cardio	ology						GH	UCW	<b>RWL</b>						NVA CV Echo RWL	
	8	~		FMC	NIV	Cardio	ology Pr	elin	n Statu	s			GW	SMC	V Cath	& EF	PRWL				NVA CV Nuc Med RWL	
	8	×		FMC	PFT	Lab							GW	SMC	V Devic	e Ch	heck RW	rL.		۱.	NVA CV Vascular RWL	-
-	179			GCN	ALL	Mamr	mograp	hy F	RVVL				GW	SMC	V Echo	RWI	L			۱.	NVA Radiology RWL	
	8	*		GCN	I Ball	antyne	e Mamn	nogi	raphy I	RWL			GW	SMC	V Nuc N	/led l	RWL			1	Pediatric Neurology RWL	
	8	×		GCN	I Brea	ast Ce	nter Ma	mm	nograp	hy RW	L		GW	SMC	V Vascu	ılar f	RWL			۰	PMC BOTOX RWL	
+	E	I F		GCN	1 CV	Cath 8	EP RV	л.					GW	SMO	B Read	ling l	RWL			~	PMC Cardiology RWL	
				GCN		Device	• Check	RW	/L				GW	SMR	adiolog	IY RV	NL				PMC Continuous EEG RWL	
	Exe	eη		GCN	I CV I	Echo F	RWL						HAI		ardiolog	)y R∖	WL				PMC CV Cath & EP RWL	
	.inl	ke		GCN		Nuc M	ed RWL								eurology						PMC Neurology RWL	
		ha		GCN	1 CV	ascu	lar RWL								eurology						PMC Pulmonology RWL	
	P	R		GCN	1 Hun	tersvi	lle Mam	mo	graphy	RWL					Imonol						PWMC Cardiology RWL	
	P	R(		GCN	1 Juli:	an Ro	ad Mam	mo	graph	RWL					PMC P						PWMC CV Cath & EP RWL	
				GCN	4 Mat	hews	Mamm	ogra	aphy R	WL					ntinuous						PWMC Neurology RWL	
	stu	ay		GCN	1 Mor	roe M	ammog	rap	hy RW	L					Cath &						PWMC Pulmonology RWL	
	R	es		GCN	1 Mus	eum I	Mammo	gra	phy R	NL					irodiagi						RMC Cardiology RWL	
				GCN	1 OB	Readi	ng RWL								Cardio	logy					RMC Continuous EEG RWL	
				GCN	1 Rac	liology	RWL							C PF1							RMC CV Cath & EP RWL	
	Orc	le		GCN	1 Sou	th Par	rk Marmr	nog	raphy	RWL					evice C						RMC Neurology RWL	
		rio		GCN	1 Univ	/ersity	Mamm	ogr	aphy F	WL							GRWL				RMC Pulmonology RWL	
	R	ou		GHL	JCBA	LRW	L								irodiagr						TMC Cardiology RWL	
	Dro	le				RWL									Cardiol						TMC Neurology RWL	
		ord		GHL	JCCL	RWL										logy	Prelim S	Status			TMC Pulmonology RWL	
		ee				IG RW								C PFT								
		-		GHL	сно	RWL									V Cardi	iolog	ду					
	_	.		GHL	снт	RRW	rL.								FT Lab							
	Orc	le											MM	C Cor	ntinuous	s EE	G					

3. Once the desired RWL is launched, left click once to select your **Reading** patient.

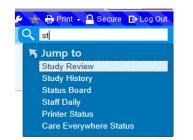
- Review the reading details in the lower half of the workspace.

Double click to open **Reading's** chart, launching the **Study Review** palette for the **Echo 2D Complete Contrast** (or Enhancing Agent).

-		, ,		_
Echocardiogram 2D Comple	ete With Contrast - Acc#: R0000112 on 6/12/2020 (Tech Complete)	)	* ۞	×
Sestore View Images	🔹 🦺 Dictate 👻 🔲 Save and Close 🚯 Needs Rvw 🖌 Sign 📑 Down	time Measurement ONLY		$\odot$
Study Details Echo Findings Co	onclusion			<i>р</i> .,
Prior Exams		Study Reports		^
C # ⊕ @		🗧 - 🕄 🖁 🖶 🗎 🗵 Study Summary	🔎 🗩 Study Summary 🔎 🖋 🕶 🌆	
Copy Previous Procedure None	Signed Accession Copy On # Read By Findings	Imaging Contrast/Medications perfusion lipid microspheres (DEFINITY) injection 1.3 mL Given: 1.3 mL http://Elvous Ordered: 1.3 mL Reason for Exam Priority: Routine AFB De Angina pectoris (*) [20.9 (ICD-10-CM)] Comments:	Study Details Reading Reading Physician Date Result Priority Lee Actinium, MO 6/1/20202 Routine € \$555:5555 (2)20202 Routine	
Technical Details     TTE Study Details	n Clear	Order Information      View Encounter Report     Ordered on 6/12/2020 8:44 AM in Pmc     Echocardiography by Lee Actinium, MD	Result Text	
Limited echo	limited 2D color flow Doppler limited spectral Doppler	Result History Order 755689	Exam Summary & Performed on 6/12/2020 8:48 AM in Pmc Echocardiography by Actinium, Lee, MD	
Complete echo	complete 2D color flow Doppler spectral Doppler	Questions ♠		
View	apical parasternal subcostal suprasternal Definity Optison saline (bubble)	Ordering Questions ≈ Reason for exam? End Exam Questions ≈	AFib	
Contrast	Definity Optison saline (bubble)	What is the sign on department?	100132002	~

Note: Only exams with a status of **Tech Complete** appear on the worklist. If your patient is *not* on the worklist:

- Use the search field in the upper right corner to locate and launch Study Review.



- The **Study Lookup** window presents. In **PRD**, execute your search using the **NH Red Rule**, selecting 2 identifiers for patient verification.

Ø		Stud	dy Lookup		_ <b>D</b> X
<u>S</u> earch <u>R</u> e	cent				
Accession <u>n</u> un	nber:	R0000112	Order ID:	755689	
Patient name/I	D:	HAPPY, READING [E	26568]		ç
Accession #A	Order Date		End Exam		Study Status
R0000063	07/17/2013		07/17/2013 9:15 AM	1	Exam Ended
R0000112	06/12/2020		06/12/2020 8:48 AM	1	Tech Comp
<					>
Clear				Accept	<u>C</u> ancel

#### For training:

- Enter ONLY the patient name and press Enter.
- Highlight the desired entry.
- Click Accept to launch the Study Review Palette.

# Workspace Overview

#### **Study Review palette**

This workspace provides an overall snapshot of the current encounter and exam or procedure.

Prior Exams		E Study Reports		
	00 B	= study Reports		<b>₽</b> ⊕ ₽
- O Ne H	日本は	Imaging Contrast/Medications		*
Copy Previous Procedure Signed On Accession # Read By None	Copy Findings	perfluten lipid microspheres (DEFINITY) injection 1.3 mL Given: 1.3 mL IntraVENous Ordered: 1.3 mL	s Study Details	Recent Lab Values No data to display.
		Reason for Exam Priority: Routin AFib Dix Angina pectoris (*) (I20.9 (ICD-10-CM)) Comments:	Reading Physician Date Result Priority Lee Actinium, MD 6/18/2020 Routine	Recent Pathology Results # No pathology results
Technical Details	Clear	Order Information  View Encounter Repo		found.
ITE Study Details		Ordered on 6/9/2028 8x44 AM in Pmc Echocardiography by Lee Actinium, MD		Relevant Priors #
imited echo limited 2D color flow Doppler limited spectral Doppler		Result History Order 27317	Exam Summary A Performed on 6/9/2028 848 AM in Pmc Echocardiography by	No relevant priors found
Complete ocho complete 2D color flow Doppler spectral Doppler		Study Result	Actinium, Lee, MD	-
View apical parasternal subcostal suprasternal		Questions	A	
Contrast Definity Optison saline (bubble)		Reason for exam?	Afib	
Study quality excellent good fair adequate poor suboptimal		Imaging Contrast/Medications: * perflutren lipid microspheres (DEFINITY) injection 1.3 mL Given: 1.3 mL IntraVENous		
Complications C technical difficulty uncooperative patient patient's clinical status	patient's body habitus heart rhythm	All Flowsheet Templates (all recorded)		
TTE Comparison Compared to prior study no change no significant change mild change significant change		All LDAs OR Lines/Drains/Airways de Problem List a Nume Reviewed Al	ppointments on 6/9/2028	
complete echo was performed using complete 2D. Definity contrast was used during the study. Or	erall the study quality was excellent.	A None Never Reviewed A	Department Provider Time Visit Type Status	
			PMC PMC 845 HH Arrived ECHOCARDIOGRAPHY NON- AM ECHOCARDIOGRAM INVASIVE COMPLETE INPT	
		Linked Charges	Code Quantity	
		TTE W/DOPPLER COMPLETE TTE W/DOPPLER COMPLETE	93306 1 93306 1	

Click the resize con in the upper right corner of the workspace to display **Storyboard** and **Activities** if not visible.

The upper left body of the workspace is comprised of a tool bar with options. Some of the available buttons (options) within the toolbar are determined by the study performed.

# Toolbar



- Restore:
  - Restores all data since opening the study, does **not** change data recorded during the exam, (i.e. the original data entered).
- View Images: View study associated images.
- CC Results: Forward final exam data to other providers
- **Needs Review**: Used if additional review is required.
  - Once selected, the **Study Review** pop up window presents. **"Continue Needs Review"** will save documentation and return to the RWL. (See screenshot below).

	,		
Study Review		:	×
① Left Ventricle	e.		
Size / visualizatior Wall thickness is r Systolic function is Wall motion is rec Diastolic function i	s recommended. ommended.		
① Left Atrium 🧧			
Cavity is recomme	ended.		
① Right Ventricl	e a		
Size / visualization Systolic function is	n is recommended. s recommended.		
(1) Right Atrium	ē.		
Size / visualization	n is recommended.		
① Aortic Valve	n		
Structure is recom Regurgitation is re Stenosis is recom	commended.		
① Mitral Valve			
Structure is recom Regurgitation is re Stenosis is recom	commended.		
① Tricuspid Valv	re 🧖		
Structure is recom Regurgitation is re Stenosis is recom	commended.		
① Pulmonic Valv	/e / Artery 🧖		
Structure is recom	mended Continue Needs F	tev Sancel	

- **Sign**: Sign documentation once complete to finalize the study.
- Normal Echo: Macro (predefined system generated template) used for documentation.

The left side of the workspace defaults to "Study Details".

- **1. Study details** is comprised of 3 sections:
  - a. Prior Exams
  - b. Technical Details
  - c. Study Report which provides an overall snapshot.

Study Details includes data documented during the exam and allows for additional documentation post examination in the Technical Details section.

Restore III View Images	▼ In Dictate ▼ Int CC Results Int Save and Close ID, Needs Review ✓ Sign Im Reading Mode ▼	Normal Echo
Prior Exams	zanciusion	
← - C   H ⊕ @		
Copy Previous  Procedure None	Signed On Accession # Read By	Copy Findings
Technical Details		Clear
TTE Study Details -		
Limited echo	limited 2D color flow Doppler limited spectral Doppler	
Complete echo	complete 2D color flow Doppler spectral Doppler	
View	apical parasternal subcostal suprasternal	
Contrast	Definity Optison saline (bubble)	
Study quality	excellent good fair adequate poor suboptimal	
Complications [	technical difficulty uncooperative patient patient's clinical status patient's body habitus heart	rhythm
TTE Comparison —		

Prior Exams: Lists relevant prior exams within 5 years.

**Copy Previous**: Allows the clinician the ability to copy forward the previous report into the current study and edit appropriately.

Prior Exams		
← - C   H ⊕ @		
Copy Previous		
Procedure None	Signed On Accession # Read By	Copy Findings

Technical Details: Data entered prior to or during the exam.

- To update SmartForm data, select or de-select options within the Technical Details section.
  - Selections generate a narrative below Technical Details.
  - The **Restore** button is active once edits are made within the Technical Details section. If edits are made and the user wishes to return to the original data entered, click **Restore**.
- Select **Clear** to delete **ALL** data from the SmartForm, including the resulting narrative.

TTE Study Details	
Limited echo	limited 2D color flow Doppler limited spectral Doppler
Complete echo	complete 2D color flow Doppler spectral Doppler
View	apical parasternal subcostal suprasternal
Contrast	Definity Optison saline (bubble)
Study quality	excellent good fair adequate poor suboptimal
Complications	technical difficulty uncooperative patient patient's clinical status patient's body habitus
	heart rhythm
TTE Comparison	
Compared to prior study	no change no significant change mild change significant change
complete echo was perfor	med using complete 2D. Definity contrast was used during the study. Overall the study quality was

Select the following in the "Technical Details" section if not defaulted:

- Complete 2D
- Definity
- Excellent

The right side of the workspace displays **Study Reports.** 

1. The Study Summary has all information related to the study and the encounter

• Review current encounter information using the hyperlinks.

🗕 – 📿 👪 🖶 🔳 🗏 Study Summary	🗩 🕀 Study Su	mmary 🔎 🌽 👻 📠
Imaging Contrast/Medications		
perflutren lipid microspheres (DEFINITY) injection 1.3 mL Given: 1.3 mL IntraVENous Ordered: 1.3 mL		Recent Lab Values No data to display.
Reason for Exam         Priority: Routine           Dx: Chest pain, unspecified type [R07.9 (ICD-10-CM)]         Comments:           Comments:         View Encounter Report           Order on 2/28/2020         8:55 AM in Pmc Echocardiography by	Reading Reading Physician Date Result Priority Lee Actinium, MD 2/28/2020 Routine \$555-555-5555	Recent Pathology Results a No pathology results found.
Lee Indium, MD Result History Order 993279 Study Result - Saved by Lee Actinium, MD on 2/28/2020 at 1:58 PM	<ul> <li>Result Text</li> <li>The left ventricular cavity is normal.</li> <li>Left ventricle shows Normal wall thickness observed</li> <li>Left atrium is moderately dilated.</li> </ul>	Relevant Priors A No relevant priors found.
<ul> <li>The left ventricular cavity is normal.</li> <li>Left ventricle shows Normal wall thickness</li> </ul>		
	Exam Summary A Performed on 2/28/2020 11:30 AM in Pmc Echocardiography by Sardinian, Nikki	
<ul> <li>Left ventricle shows Normal wall thickness observed</li> <li>Left atrium is moderately dilated.</li> <li>The left ventricular cavity is normal.</li> <li>Left ventricle shows Normal wall thickness observed</li> </ul>	Performed on 2/28/2020 11:30 AM in Pmc Echocardiography	
<ul> <li>Left ventricle shows Normal wall thickness observed</li> <li>Left atrium is moderately dilated.</li> <li>The left ventricular cavity is normal.</li> <li>Left ventricle shows Normal wall thickness observed</li> <li>Left atrium is moderately dilated.</li> </ul> Questions  Stress echo exam to be performed? Imaging Contrast/Medications: <ul> <li>perflutren lipid microspheres (DEFINITY) injection 1.3 mL Given: 1.3 mL IntraVENous</li> </ul> All Flowsheet Templates (all recorded)	Performed on 2/28/2020 11:30 AM in Pmc Echocardiography by Sardinian, Nikki	
Left ventricle shows Normal wall thickness observed     Left atrium is moderately dilated.     The left ventricular cavity is normal.     Left ventricle shows Normal wall thickness observed     Left atrium is moderately dilated.     Suestions      Stress echo exam to be performed?     Maging Contrast/Medications:	Performed on 2/28/2020 11:30 AM in Pmc Echocardiography by Sardinian, Nikki	
Left ventricle shows Normal wall thickness observed     Left atrium is moderately dilated.     The left ventricular cavity is normal.     Left ventricle shows Normal wall thickness observed     Left atrium is moderately dilated.     Suestions ♠     Stress echo exam to be performed?     Maging Contrast/Medications:         e perflutren lipid microspheres (DEFINITY) injection 1.3 mL Given: 1.3 mL IntraVENous     Sull Flowsheet Templates (all recorded) OR Lines/Drains/Airways	Performed on 2/28/2020 11:30 AM in Pmc Echocardiography by Sardinian, Nikki	
<ul> <li>Left ventricle shows Normal wall thickness observed</li> <li>Left atrium is moderately dilated.</li> <li>The left ventricular cavity is normal.</li> <li>Left ventricle shows Normal wall thickness observed</li> <li>Left atrium is moderately dilated.</li> </ul> Questions  Stress echo exam to be performed? Imaging Contrast/Medications: <ul> <li>perflutren lipid microspheres (DEFINITY) injection 1.3 mL Given: 1.3 mL IntraVENous</li> </ul> All Flowsheet Templates (all recorded) OR Lines/Drains/Airways Problem List <ul> <li>None</li> </ul> Problem List  None	Performed on 2/28/2020 11:30 AM in Pmc Echocardiography by Sardinian, Nikki Stress Echo	

The exercise below will explore the use of exam specific macros as well as SmartForm entry. To begin documentation, click the **Echo Findings** tab located beside **Study Details**.



The resulting SmartForm is primarily organized or sectioned by anatomic structure.

Functionality, where applicable, allows the entry of Findings, Measurements, use of anatomic specific Macros and/or the option to add additional findings.

- A check mark beside a "variable/characteristic" indicates data input.
- Sections without documentation are designated by caution sign icons.

The upper right corner of each section includes the following hyperlinks:

- 1. Findings
  - a. Data entered during exam
  - b. Hyperlinks available for information entry
- 2. Measurements
- 3. Macros
  - a. System generated, pre-built phrase or text used for quick documentation
- 4. Clear
  - a. Clear data entered in a section
- 5. +Finding: Add additional findings

We will review featured functionality during the exercise.

Left Ventricle	Findings Measurements	🕨 Macros 🖿 Clear 🕂 Finding	Aortic Valve	Findings Measurements	🕨 Macros 👒 Clear 🕂 Findi
Findings 🧶 ———————————————————————————————————	Mall thickness	Systolic function	Structure / 2D 🍭 —		Annulus
	Diastolic function	Systolic function	Prolapse / Flail	- Structure	Annulus
Van mouon			Function / Doppler		4
🕈 Left Atrium	Findings Mea	asurements 🏾 Clear 🕂 Finding	A Regurgitation		a
Findings 🍳 ———					
Visualization	🔺 Cavity	Pulmonary veins	Mitral Valve	Findings Measurements	Macros 🌏 Clear 🕂 Find
			Structure / 2D 🍬 —		
Right Ventricle		Findings Measurements	Visualization	A Structure	Annulus / MAC
		🕨 Macros   Clear 🕂 Finding	Prolapse / flail		
Findings 🧶 ———			Function / Doppler 🏾 🗶		
Size / visualization	Systolic function	Wall thickness	A Regurgitation	🔺 Stenosis	Function
🗣 Right Atrium	Findings Mea	asurements 🏾 Clear 🕂 Finding	Aorta	Findings Measurements	▶ Macros ► Clear + Find
Findings 🍳 ———			Findings 🧶 ———		i
🔺 Size / visualization	Volume	Pressure	Dilatation /	Plaque	Dissection

# Using a Macro

A Macro is a pre-built, system generated phrase or text used for quick documentation. Exam specific macros appear in the workspace toolbar while anatomy specific macros appear in the designated anatomic section.

Select the Normal Echo macro within the workspace toolbar.



Several sections within the reading palette have been updated with findings.

- Review the documented variables if desired (compare the check mark vs. caution symbol)
  - Click a hyperlink(s) to add or update data.
  - Review the narrative below each section.

To view narrative appearance in the final report, click the **Conclusion** tab to the right of the **Echo Findings** tab and review the report. Once reviewed, return to the **Echo Findings** tab.

To clear the form, select **Clear** in the upper right of each section displaying information. With the SmartForm clear of all entries, prepare to proceed to the exercise below. Paying attention to the icons beside each hyperlink within a section, how does a user recognize when no data is entered?

- **ANS**: Caution symbols, rather than check marks are present.

tudy Details Echo Findings Conclusion		
♥ Left Ventricle         Findings         Measurements         ▶ Macros < Clear + Finding           Findings <	Aortic Valve     Findings Measurements      Macros      Clear      Finding	Cricuspid Valve     Findings Measurements ▶ Macros ≳ Clear ♣ Finding     Structure / 2D ≤
Youngs <     Youngs       Youngs        Youngs      Youngs      Youngs       Youngs       Youngs        Youngs      Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs        Youngs       Youngs       Youngs       Youngs	Visualization I Structure Annulus I Prolapse / Flail	Visualization 🖍 Structure Annulus
The left ventricular cavity is normal. Wall thickness is normal. Wall motion is within normal limits. There is no diastolic dysfunction.	Function / Doppler & V Regurgitation V Stenosis	Function / Doppler            Y         Regurgitation         Y         Stenosis         Y         RVSP
😌 Left Atrium Findings Measurements 🧠 Clear 🕂 Finding	The leaflets are not thickened. There is no acrtic valve prolapse. There is no regurgitation or stenosis.	Tricuspid valve structure is normal. There is no prolapse. There is no regurgitation or stenosis. The right ventricular systolic pressure is normal.
Findings < Visualization Law Cavity Pulmonary veins	Mitral Valve     Findings Measurements      Macros      Clear      Finding	Clear + Findings Measurements @ Clear + Finding
♥ Right Ventricle         Findings         Macros < Clear + Finding           Findings	Visualization 🖌 Structure Annulus / MAC Prolapse / flail Subvalvular disease	Structure / 20 <
✓ Size / visualization ✓ Systolic function ✓ Wall thickness	Function / Doppler <	A Regurgitation 🔺 Stenosis
Right ventricle cavity appears normal. Systolic function is normal. Wall thickness is normal.	The mitral valve has normal structure and function. There is no regurgitation or stenosis.	Pulmonary Artery  Size / dilation Hypertension PA abnormalities
Image: Weak of the second se	N Aorta Findings Measurements ▶ Macros & Clear ♣ Finding	
Size / visualization Volume Pressure	Findings &	Findings e Visualization Effusion Tamponade (-/+)
𝘌 Wall Scoring	Anatomy & X Graft Transposition  Coarctation / hypoplasia	Appearance
O We've redesigned this tool. Stage editing tools are now in the upper right corner. Click on wall segments to increase (left click) or decrease (right click) the scoring options.	The aorta appears normal in size. There is no significant coarctation.	-
Got It Show me later	NVC / SVC Findings Measurements . Clear ∔ Finding	
Baseline * X Basal SA Mid SA Apical SA	Findings 🍭	
	IVC structure / RA Pacer wire / venous Flow patterns catheter	

# Exercise I: 2D Echo with Enhancing Agent (Contrast)

The exercise below is a finalized report. Use your **Reading** patient to review and document the findings within the report using the Cupid Expansion toolset. Document findings <u>of your choice</u> using the wall scoring diagram.

## Things to know before you start:

- 1. Clicking a hyperlink within a section opens a window offering expanded detail documentation options. (Ex. Cavity, Diastolic Function, Size/Visualization)
- Selecting the flag icon will send the statement to the summary section of the report.
- Selections generate text in the Report text window.
  - Free text is a documentation option in the Report text window. Dragon One Medical is **not** SmartForm supported.

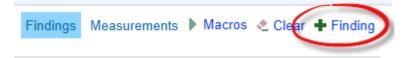
- Free text should be entered in the Report Text section **after** all selections within the pop-up window have been made. If NOT, the free text is overwritten by the selection.
  - A message appears stating 'Edited text has been overwritten'. To avoid, be sure to make selections first, then free text. Click elsewhere in the form to save.

	mplete With Contrast - Acc#: R000	
🖆 Restore 🔠 View Images 👻	Dictate      ■C CC Results      Save and Close	🖏 Needs Revie <u>w</u> 🖌 Sign 🛛
Study Details Echo Findings Conclu	usion	
Ceft Ventricle	dings Measurements 🕨 Macros 🍝 Clear 🕂 Find	ing 🛛 🗘 Aortic Valve
Findings 🄌		Structure / 2D
🔺 Size / visualization 🤞	Wall thickness 💧 Systolic function	Visualization
🔺 Wall motion 🛛 🧍	Diastolic function	Prolapse / Fl
🕈 Left Atrium	LV diastolic function L not well visualized	A filling pressure - normal
Findings 🗶 ————	unable to assess	elevated
Visualization		inconclusive /alve
	grade I (mild) abnormal relaxation	2D -
Pright Ventricle	grade II (moderate) pseudonormal grade III (severe) reversible restrictive	ation
Findings 🗶 ————	grade in (severe) reversione resultaine	se / fla
A Size / visualization	Report text	Dopp
👽 Right Atrium		Itation
Findings 🍭		
A Size / visualization	Volume Pressure	Findings
♥ Wall Scoring		Dilatation / visualization
	ol. Stage editing tools are now in the upper right nents to increase (left click) or decrease (right	► IVC / SVC
Got it Show me later		IVC structure
Baseline	*0 ×	pressure
Basal SA	Mid SA Apical SA	•
	$\mathbf{O}$	

2. Select "Undo Text Update" to return to original text entered in the Report Text field.

Plaque	Dissection
Location (multiple) — ascending aorta	Characteristics —— layered
transverse aorta	protruding
descending aorta	multilobular
Size	echolucent
small	mobile
moderate	
large	
🕁 Undo text update	٣
There is a small amount the transverse aorta.	of protruding plaque in

3. Findings not visible as hyperlinks on the SmartForm launch can be located under "+ Findings"

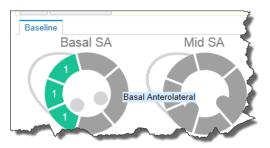


4. Clicking on a sentence within the narrative text below a section opens the corresponding section for that characteristic. Additional options are available via cascade and inverted chevrons indicate additional options for expanded documentation.

♥ Left Atrium		Findings Measur	ements Clear 🕂 Fir	nding	🛛 🛌 🔥 Stenosis
Findings Visualization	✓ Cavity	~	Pulmonary veins	Mitral Valve	Findings
Left atrium cavity is moderatel veins appear normal with norr				Flow patterns	Vein connection
Right Ventricle	Findings N	Measurements 🕨	normal abnormal	systolic blunting systolic flow reversal	Location (multiple) left superior
Findings A Size / visualization	A Systolic functi	on	Size normal		left inferior right superior
Right Atrium		Findings Measur	dilated stenotic		right inferior abnormal ≫
Findings 🗶 ———					7
▲ Size / visualization Wall Scoring	Volume		The pulmonary veins pulmonary veins	appear normal with normal venc ction.	ous flow. There is a normal
We've redesigned this t	ool. Stage editing tool	s are now in the u			KA Pacer win

5. To document the wall scoring diagram, hover over a segment and left click until the segment is highlighted with the desired scoring.

What questions do you have?



6. Measurements will flow over from the modality cart. Click "Measurement" within a section to edit recorded data.

Use the final result report below to document the stated findings for your Reading patient.

# Final Result

#### **Interpretation Summary**

- 1. Severe LV dysfunction. EF is in the 15-20% range.
- 2. 2+ TR with moderate-severe increase in the RVSP
- 3. Moderate LVH.

#### Left Ventricle

The left ventricle is severely dilated. There is no thrombus. There is moderate concentric left ventricular hypertrophy. Left ventricular systolic function is severely reduced. Indeterminate diastolic function. Flattened septum is consistent with RV pressure/volume overload. There is severe global hypokinesis of the left ventricle. The inferior segment appears more severely hypokinetic.

#### **Right Ventricle**

The right ventricle is severely dilated. The right ventricular ejection fraction is grossly normal.

#### <u>Atria</u>

LA Volume is c/w severely dilated (>48 ml/m2). LA Volume is 55 ml/m2. The right atrium is severely dilated.

#### Mitral Valve

There is apical tethering of the subcordal mitral valve apparatus due to the LV dysfunction. There is mild mitral annular calcification. There is no mitral valve stenosis. There is mild to moderate mitral regurgitation.

#### Tricuspid Valve

There is no tricuspid stenosis. There is moderate tricuspid regurgitation (2+). Right ventricular systolic pressure is elevated at 50-60mm Hg (does not allow for a range), consistent with moderate-severe pulmonary hypertension.

#### **Aortic Valve**

The aortic valve is trileaflet. Mild aortic sclerosis is present with good valvular opening. Mild aortic regurgitation. **Pulmonic Valve** 

The pulmonic valve is not well visualized. There is no pulmonic valvular stenosis. There is trace pulmonic valvular regurgitation. (Pushed pulm valve not visualized to end of narrative).

#### **Great Vessels**

Borderline aortic root dilatation.

#### Pericardium/Pleural

There is no pericardial effusion.

MMode/2D Measurements & Ca IVSd: 1.5 cm LVIDd: 7.1 c		ot diam: 3.8 cm LVIDs: 6.2	cm EDV(Teich): 261.0 ml		
Ao root area: 11.3 cm2 LV LA dimension: 5.6 cm	'PWd: 1.4 cm EF(Teid	ch): 26.0 %			
LVOT diam: 2.1 cm					
Doppler Measurements & Calcu Ao V2 max: 191.0 cm/sec	<u>ulations</u> Al max vel: 395.2 cm/se	c LV V1 max PG: 2.4mr	nHg SV(LVOT): 55.7ml		
Ao max PG: 15.0 mmHg Ao mean PG: 7.5 mmHg	AI max PG: 61.7 mmHg AI dec slope: 11 .3 mmł				
AVA(V,D): 1.4 cm2					
AI P1/2t: 588.1 m/sec					
LV V1 mean: 52.6 cm/sec					
LV V1 VTI: 16.1 cm					
TR max vel: 318.2 cm/sec					
TR max PG: 40.5 mmHg					
What questions do you have about using the SmartForm to document your findings?					
To review and continue docu	umentation, click the Co	nclusion tab.			
Study	y Details Echo Findings	Conclusion			

Reviewing the Conclusion tab workspace, the left side is comprised of the following sections:

#### 1. Summary Statements

- Statements appearing here comprise the Interpretation Summary
- Free-text capability within Summary Statement section
  - Real-time text displays in both Study Details tab Study Reports (right side of screen) and Conclusion tab – Result Report
- De-selecting any statement removes the statement from the Interpretation Summary and report(s)
- Updating information in the Summary Statements section will update the Interpretation Summary section in the Result Report but will **not** update the narrative in the Findings SmartForm
- Hover over the \_\_\_\_\_ icon to identify "linked unedited text"
  - Link icon does not appear for text/statements manually entered
  - o Statements without edit from SmartForm remain linked to the original finding
  - Edited statements display as "Edited" and are not linked to the original finding

C 3

- 2. Result Text Free text or use SmartPhrases to document
- 3. Reading Physicians and Roles See or Edit Reading physician
- 4. **Indications** Displays diagnosis entered at time of ordering; Enter post study indication (required)
- 5. **Interesting Study** Use the search tool to indicate a reason along with free text entry in the window provided.

Once documentation and review are complete, click **"Sign"** in the workspace toolbar.

A Best Practice Advisory (BPA) may appear with recommendation(s). Address the BPA and **Continue Sign**. You are returned to the RWL Homepage.

What questions do you have?

# Exercise 2: Vascular Studies (Carotid Dup-Bilateral)

The overall functionality of Cupid Expansion is the same across vascular and non-vascular study documentation.

Complete the self-guided exercise below. Here, you will use the **GCM CV Vascular RWL** to document findings.

## To begin:

- 1. Locate and click **Views** in the workspace toolbar.
- 2. Double click GCM CV Vascular RWL to launch.
- **3.** Locate your **Bruit** patient. Left click once to review the Reading details, then double click the patient name to open the chart.

This exercise is self-guided. Make your own selections.

**Note**: Only vascular anatomy observed during the exam will be available for documentation.

If the RWL in unavailable or to review studies that have not been completed by the tech, launch Study Review to document.

- 1. Using the search field above the patient list, search for and launch Study Review.
- 2. Enter your Bruit patient name in the Name/ID field of the Study Lookup window.
  - a. Review and verify the populated information

ø			Stud	y Lookup		_ <b>□</b> ×
5	Search Re	cent				
A	Accession <u>n</u> um	iber:	R0000117	<u>O</u> rder ID:	817789	
E	<u>P</u> atient name/II	D:	Irritated, Bruit [Z2687	0]		Q
A	ccession #▲	Order Date		End Exam		Study Status
R	0000117	06/15/2020		06/15/2020 11:23 A	M	Tech Comp
<						>
	Clear				<u>A</u> ccept	<u>C</u> ancel

- 3. Click Accept or press Enter to open the chart.
- 4. The chart opens to Study Details
  - Review the report.
- 5. Click the Findings tab
- 6. Make selections of your own.
  - Be sure to add measurements and free text.

In the image below, the user has completed documentation using the Normal Carotid macro.

Carotid duplex / Bilat - Acc#	: R0000117 on 6/15/2020 (Ted	ch Complete)			® * ۲		
	) Restore 🔃 View Images 🔹 🌡 Dictate 🔹 📲 CC Results 🔲 Saye and Close 🕒 Needs Review 🗸 Sign 🥵 Normal Carolid						
Study Details Findings Conclusion					þ.		
<b>∧</b> Right Carotid		Findings Measurements 🌢 Macros 🔌 Clear	<b>∧</b> Left Carotid		Findings Measurements 🕨 Macros 🍨 Clear		
Free Text Findings 🄌 ————			Free Text Findings 🄌 ————				
Free text findings			Free text				
Common Carotid Artery 🔌 ——			Common Carotid Artery 🔌 ——				
✓ Proximal	✓ Middle	✓ Distal	✓ Proximal	✓ Middle	✓ Distal		
Internal Carotid Artery 🐁 ———			Internal Carotid Artery 🔌 ———				
Proximal	Middle	Distal	Proximal	Middle	Distal		
Additional 🍭 ————			Additional 🧶 ————				
External carotid artery	Vertebral	Subclavian	External carotid artery	Vertebral	Subclavian		
The right middle common carotid artery	demonstrates no significant stenosis. The rig	ight proximal common carotid artery has no significant plaque. It middle common carotid artery has no significant plaque. distal common carotid artery has no significant plaque.	The left middle common carotid artery d	lemonstrates no significant stenosis. The left	ft proximal common carotid artery has no significant plaque. middle common carotid artery has no significant plaque. stal common carotid artery has no significant plaque.		

7. Once documentation is complete, click the Conclusion tab.

Review the information presented in the Result Report on the right. This report contains all data currently documented. Summary Statements and Result Text are updated real time.

Information and data documented during the exam can be edited by returning to the Study Details or Findings tabs on the left side of the workspace. This is the data contributing to the finalized report.

While in the Conclusion tab, take a few moments to enter and remove summary statements; change the reading provider and add information to the Result Text.

Study Details Findings Conclusion			
Select All     Select None       Incl     Statement       Incl     Enter additional statements	s here for report inclusion	De-select check box to remove statement from Interpretation Summary	†
	artText (Ē) ← ➡ ➡ ᠿ O (Ē)		tid arteries.
Reading Physicians and R		Cardialaan	The Reading Physician reflects the user to whom the exam was assigned. To change, de-select the check box. Replace the existing name
Reading Physician ACTINIUM, LEE	Read Date         Read Time           06/15/2020         01:10 PM	Cardiology	with the desired and press

After reviewing the overall functionality of the workspace, click **Sign** to finalize the documentation and return to the RWL homepage.

What questions do you have?

# Exercise 3: Transesophageal Echocardiogram w Enhancing Agent (TEE)

For additional practice documenting, complete the exercise below. Use your **Teri** patient to complete this exercise.

If you haven't already, log into Dimensions using the information provided by the facilitator. Click "Enter" or "Ok" until you have reached the homepage. If you are logged in, use one of the methods previously discussed to locate your patient and/or study (hint: Study Review or RWL).

#### **TEE Reading Palette Overview**

The Reading Palette opens to Study Details.

There are 3 overall sections:

- 1. Study Details
- 2. Prior Exams
- 3. Technical Details
  - a. Greater detail/more options in this section for the TEE
  - b. Available selection(s) are driven by the procedure performed

Transesophageal Ech	nocardiogram with Contrast - Acc#: R0023307 on 6/23/20	20 (Tech Complete)			@ * X
🖋 Full Edit Mode 🛛 🔠 Limited Ed	dit Mode 🛨 Restore 🔠 View Images 👻 🍨 Dictate 👻 🛋 CC Results 🔲 Save and	d Close 🔿 Skip 😥 Needs Rvw 🗸 Sign	Reading Mode -		•
Study Details Pcho Findings Co	onclusion				j
Prior Exams			E Study Reports		^
		₽ @ @	🗁 - 📿 🖁 🖶 🕞 📄 🗄 Study Summary	🔎 🕀 Study	r Summary 🔎 🌶 🖷
Copy Previous Procedure None	Signed On Accession # Read By	Copy Findings	Imaging Contract/Medication perfolhen light microsphere (DEFINITY) injection 25 mL Given; 25 mL IntraVENos Ordered; 25 mL Reason for Exam Dic New onset a +1b (*) (J48.91 (JCD-10-CM)) Comments:	Reading Reading Physician Date Result Priority	Recent Lab Values No data to display. Recent Pathology Results #
C Technical Details		🌏 Clear	Order Information  Ordered on 6/23/2020 8:48 AM in Pmc Echocardiograph Lee Indium, MD	Arterio Glamorous, MD 6/24/2020 Routine Report y by Result not yet available	No pathology results found.
TEE Study Details Timeout called immediately prior to procedure?	Yes No		Result History Order 2	12484 Exam Summary P Performed on 6/23/2020 12:55 PM in Pmc Echocardiograph by Abate, Fatima, RN	Relevant Priors  No relevant priors found.
Limited echo Complete echo	limited 2D color flow Doppler limited spectral Doppler complete 2D color flow Doppler spectral Doppler esophaaaal transcastric descending thoradc		Imaging Contrast/Medications: * perfuture lipid micropheres (DEFINITY) injection 25 m Given: 25 mL IntraVENous All Flowsheet Templates (all recorded) All IOx	L	
Views Contrast	Definity Optison saline (bubble)		Anthropometrics Custom Formula Data Has the patient had esophageal stretching or stricture? Immediate Reassessment		
Probe insertion by	anosthosiologist		IV Placement Kcentra Dose Calculator NPO Status Quickbar Vitals		
Insertion difficulty	none minimal moderate difficult		TEE Vital Signs Vitals		
Sedation	general sedation moderate sedation		Vitals Vitals Reassessment		
			Flowsheet Data By Column (last 72 hours)		
Lidocaine	yes no		Tilt Flowsheet Data Date/Time Tilt Series Cardiac Rhythm BP	Patient Sympt- Pulse SpO2 oms	
Midazolam (mg)			06/23/20 — 140 12:54:21		
Fentanyl (mL)			12:54:21 06/23/20 — — 150 12:53:14	v60 52 98 % —	~

There are 3 sections within Technical Details

- 1. TEE Study Details:
  - a. General study details (i.e. Timeout, views, contrast)
- 2. Sedation:
  - a. Document medications and anesthesia type
- 3. Post Procedure:
  - a. Post procedure diagnosis *must* be entered in order to sign/finalize the study
  - b. Specimen
    - i. A selection of 'Yes' opens a window for entry to record specimen

D Technical Details		Clear
TEE Study Details		
Timeout called immediately prior to procedure?	Yes No Required entry	
Limited echo	limited 2D color flow Doppler limited spectral Doppler	
Complete echo	complete 2D color flow Doppler spectral Doppler	
Views	esophageal transgastric descending thoracic	
Contrast	Definity Optison saline (bubble)	
Probe insertion by	anesthesiologist cardiologist	
2 Insertion difficulty	none minimal moderate difficult	
Sedation		
Sedation	general sedation moderate sedation	
Lidocaine	yes no	
Midazolam (mg)		
Fentanyl (mL)		
Other medications		
Post Procedure		
Post Procedure diagnosis	Required entry	
Assistant	9	
Complications	blood on removal of probe no complications	
Estimated Blood Loss (mL)	D Specimen(s) removed Yes No	

**Hardstops** in all sections must be addressed. Note that some items **not** indicated by hardstop are also required (i.e. Post Procedure Diagnosis)

This entry is required. When answered "Yes" a pop-up window appears for specimen documentation.

Estimated Blood Loss (mL) 0	Specimen(s) removed Yes No	
	⊕ 🕸 🖕 🗢 🖉 🕄 💭 🕂	
	Insert SmartText 📑 🔄 🗢 🐇 🛼	More -
		Zoom
	Enter specimen deta here	iils

Selecting 'More' offers the option to Zoom in or out. This does **not** launch the Zoom application.

Make the following selections in the Technical Details section of the workspace. Address hardstops.

D Technical Details		Clear
TEE Study Details -		
Timeout called immediately prior to procedure?	Yes No	
Limited echo	limited 2D color flow Doppler limited spectral Doppler	
Complete echo	complete 2D         color flow Doppler         spectral Doppler	
Views	esophageal transgastric descending thoracic	
Contrast	Definity Optison saline (bubble)	
Probe insertion by	anesthesiologist cardiologist	
	Q	
Insertion difficulty	none minimal moderate difficult	
Sedation		
Sedation	general sedation moderate sedation	
Lidocaine	yes no	
Midazolam (mg)		
Fentanyl (mL)		
Other medications		
Post Procedure		
Post Procedure diagnosis		
Assistant		
Complications	blood on removal of probe no complications	
Estimated Blood Loss (mL)	0 Specimen(s) removed Yes No	

Review the narrative generated below the section and select the Echo Findings tab.



Workspace functionality is the same here as previously demonstrated. The exercise facilitates guided practice.

The exercise below is a finalized report. Use your Teri patient to review and document the findings within the report using the Cupid Expansion toolset. Document findings <u>of your choice</u> using the wall scoring diagram.

# Final Result

# **Procedure/Quality**

A complete transesophageal echocardiogram was performed (2D, 3D reconstruction, Doppler, and color flow Doppler). Patient underwent a transesophageal echocardiogram under sedation. Topical anesthesia to the throat was performed with viscous lidocaine. Sedation was achieved with IV Propofol per anesthesia protocol. The probe was swallowed without complications. Agitated saline contrast was used. The study was of good diagnostic quality.

# **Interpretation Summary**

NO INTRACARDIAC THROMBUS. OKAY TO PROCEED WITH DC CARDIOVERSION.

MILDLY DILATED LEFT ATRIUM.

LOW-NORMAL LV SYSTOLIC FUNCTION, LVEF 50-55%.

AORTIC VALVE SCLEROSIS WITH MILD AORTIC REGURGITATION.

MILD MITRAL REGURGITATION.

MODERATE ATHEROSCLEROTIC PLAQUE IN AORTIC ARCH.

# Left Ventricle

The left ventricle is normal in size. There is no thrombus. There is normal left ventricular wall thickness. Left ventricular systolic function is low normal. Ejection Fraction is 50-55 %. No regional wall motion abnormalities noted.

# **Right Ventricle**

The right ventricle is normal size. The right ventricular ejection fraction is grossly normal.

## Atria

LA Volume is 39 ml/m2. LA Volume is c/w mildly dilated (35 ml/m2- 41ml/m2). No thrombus is detected in the left atrial appendage. No left atrial mass or thrombus visualized. The right atrium is normal. Injection of contrast documented no interatrial shunt. The interatrial septum is intact with no evidence for an atrial septal defect. The thickening of interatrial septum suggests lipomatous hypertrophy.

# **Mitral Valve**

The mitral valve leaflets appear thickened, but open well. There is mild mitral regurgitation.

# **Tricuspid Valve**

The tricuspid valve leaflets are thin and pliable and the valve motion is normal. There is trace tricuspid regurgitation. Pulmonary hypertension is not suggested by Doppler findings.

## **Aortic Valve**

Mild aortic sclerosis is present with good valvular opening. The aortic valve is tri-leaflet. There is no aortic stenosis. There is mild aortic regurgitation (1+).

## **Pulmonic Valve**

The pulmonic valve is normal in structure and function. There is trace pulmonic valvular regurgitation.

### Vessels

Moderate atherosclerotic plaque(s) in the aortic arch. Mild atherosclerotic plaque(s) in the descending aorta.

### Pericardium

There is no pericardial effusion.

## MMode/2D Measurements & Calculations

LVLd ap4: 7.9 cm EF(MOD-sp2): 47.4% SV(MOD-sp4): 38.9 ml SV(MOD-sp2): 54.5 ml EDV(MOD-sp4): 84.8 ml

LVLs ap4: 6.1 cm ESV(MOD-sp4): 45.9 ml EF(MOD-sp4): 45.9 %

Doppler Measurements & Calculations			
Ao V2 max: 129.0 cm/sec	AI max vel: 378.6 cm/sec		
Ao max PG: 6.7 mmHg	AI max PG: 57.3 mmHg		
Ao mean PG: 3.6 mmHg			
AI dec slope: 229.7 cm/sec2			
AI P1/2t: 482.8 m/sec			

What questions do you have about using the toolset for documentation?

The remaining functionality exists just as the 2D Echo w/ Contrast. To review and continue documentation, click the Conclusion tab.



Once documentation and review are complete, click "Sign" in the workspace toolbar.

A Best Practice Advisory (BPA) may appear with recommendation(s). Address the BPA and **Continue Sign**. You are returned to the Homepage.

What questions do you have?