

Super User Training

Reading Cardiologist and Sonographer

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Cardiology Super User Training Guide

WORKFLOW

1. Log in



2. Select correct Activity Overview or Task List – if not selected by Default
3. Locate Studies for reading
4. Open studies by open or start reading

Started tasks (4)

Activities overviews

My selection: 0

Cardiologist

To do: 6 total

Task list - "To do"

6 tasks

		Patient last name	Patient first name	Patient ID	Assigned to	Patient date of birth	Modality type	Procedure name
		TEST	ECHO		CARDIOLOGIST, Agfa	01/01/2011	OT	Outpatient Echocardiogram
		Test	Agfa EI		CARDIOLOGIST, Agfa	01/03/2015	US	ECHOCARDIOGRAM
		Echo1	ZZZTest		CARDIOLOGIST, Agfa	01/11/2015	US	ECHOCARDIOGRAM
		JAMES	SMITH		CARDIOLOGIST, Agfa	05/05/2006	US	ECHOCARDIOGRAM
		TEST	ECHO		Cardiologist	01/01/2011	OT	ECHOCARDIOGRAM
		Agfa	Test		CARDIOLOGIST, Agfa	04/11/1980	US	ECHOCARDIOGRAM

5. Select single study or multiple for batch reading
6. Select Start Reading or Start list

Started tasks (11)

Task list - "New US"

17 tasks

Patient name and Patient ID	Repor	Procedure name	Accession number	Study date	Numb	Ordering physician name	Assigned to	Task creation date
CARDIO, TOMTEC	AGFA00012782	US CARDIO TTE, US CARDIO 4D TAV	DEMO000000001761, D	25/10/15, 10:08, 260	4124		Carlson, Carl	22/03/19, 10:52
CARDIO, TOMTEC	AGFA00012782	US CARDIO 4D CV	DEMO000000001202	30/11/05, 17:21	19		Carlson, Carl	08/09/17, 09:26
CARDIO, TOMTEC	AGFA00012782	US CARDIO 4D LV	DEMO000000001203	11/06/08, 10:31	2		Carlson, Carl	08/09/17, 10:25
CARDIO, TOMTEC	AGFA00012782	US CARDIO 4D MV	DEMO000000001204	20/04/09, 09:22	2		Carlson, Carl	08/09/17, 10:25
CARDIO, TOMTEC	AGFA00012782	US CARDIO 4D MV	DEMO000000001206	10/12/09, 08:31	1		Carlson, Carl	08/09/17, 10:27
CARDIO, TOMTEC	AGFA00012782	US CARDIO 2D CPA	DEMO000000001213	20/04/12, 10:59	584		Carlson, Carl	08/09/17, 10:28
CARDIO, JOHN	AGFA00012842	US ARTERIAL DUPLX	DEMO000000001265	17/08/11, 14:39	35		Carlson, Carl	08/09/17, 10:29
CARDIO, PEDS	AGFA00012822	US CARDIO PEDS	DEMO000000001242	29/12/10, 12:10	282		Cardiologist, Cardiology Sonographer group	08/09/17, 10:31
CARDIO, VASCULAR	AGFA00012852	US CARDIO DUPLX	DEMO000000001283	17/08/11, 14:21	40		Carlson, Carl	08/09/17, 10:31
CARDIO, JOHN	AGFA00012842	US CARDIO TTE	DEMO000000001267	24/09/13, 09:13	715		Carlson, Carl	08/09/17, 10:32
SUMMERS, SCOTT	AGFA00012922	US CARDIO TTE	DEMO000000001345	05/10/10, 11:53	343		Carlson, Carl	26/09/17, 11:50
BANNER BRUCE	AGFA00012924	US CARDIO TTE	DEMO000000001353	22/03/11, 15:39	1259	BROWN, EMMETT	Carlson, Carl	26/09/18, 14:45
CARDIO, FETAL	AGFA00013382	US CARDIO PEDS	DEMO000000001762	14/02/15, 08:88	2713		Cardiologist, Cardiology Sonographer group	22/03/19, 12:06
CARDIO, FETAL	AGFA00013382	US CARDIO FETAL	DEMO000000001781	24/02/15, 10:49	218		Cardiologist	12/04/19, 12:09
CARDIO, JANE	AGFA00012892	Preli... US CARDIO TTE, MRI CARDIO, COR...	DEMO000000001223, D	07/05/07, 11:45, 080...	116, 8...		Carlson, Carl	12/04/19, 12:55
CARDIO, JANE	AGFA00012892	US CARDIO TTE	DEMO000000001225	10/08/10, 10:15	2		Carlson, Carl	26/09/20, 20:12
Test, Sara	AGFA00021422	US CARDIO STRESS	DEMO000000008923				Carlson, Carl	11/09/20, 21:25



- Active Study
- Comparisons
- View additional comparison exams
- View study or technologist comments

File Text area Tools Help

1 of 1 study

Cardio, TomTec 1982-10-10

Return to active

Patient info

Patient name Cardio, TomTec

Patient comment

Patient ID Patient date of birth 1982-10-10

Current patient type Patient age 37 y

Current patient location Patient sex Male

Active studies (1)

Study date/time	Procedure name	Mod.	Ordering physician
1904-03-28, 08:30 AM	SR_US Cardio Stress	US	

Comparison studies (11)

Study date/time	Procedure name	Mod.	Performing department
2014-09-17, 05:41 AM	US_US Cardio 4D T...	US	
2014-07-01, 06:44 AM	SR_US Cardio 4D CV	US	
2014-02-26, 04:07 AM	SC_US Cardio 4D T...	US	
2012-09-28, 09:06 AM	US Cardio 4D MV	US	
2012-04-20, 05:59 AM	US Cardio 2D CPA	US	
2012-01-31, 09:43 AM	US_US Cardio Stress	US	
2011-04-06, 07:41 AM	US Card		Compare images
2010-03-03, 04:55 AM	US_US C		Display images
2009-12-10, 03:31 AM	US Card		Add images to clinical sidebar
2009-04-20, 04:22 AM	US Card		Download images now
1925-09-14, 08:33 AM	US_US C		Text only

Comparison Study - 2012-01-31, 09:43 AM

Report US_US Cardio TTE

Reason for study

Clinical info

Procedure plan

Order priority Normal

Order date/time 2012-01-31, 09:43 AM

Study date/time 2012-01-31, 09:43 AM

Performing department

Procedure code US_US CARDIO TTE

Modality types US

Ed wet read

Baseline study

Study comment

Technologist's comments

Acquisition

History

- Active vs Comparison
- Pause study
- Tools
- Complete Reading task or assign to another user or group



15. Task completed in follow-up activity under My Completed Today

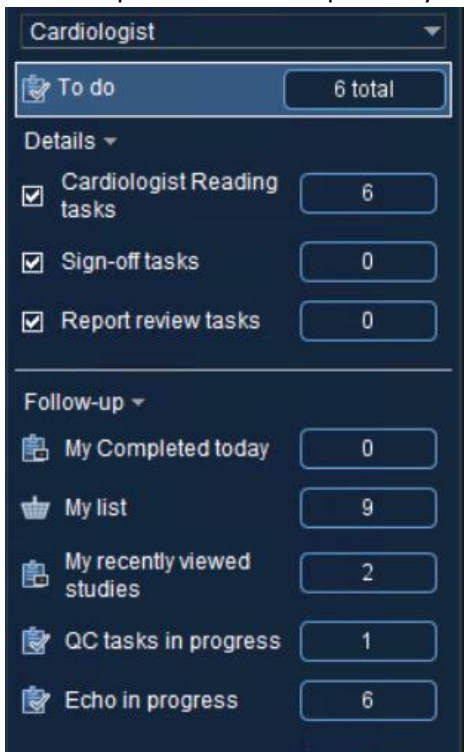

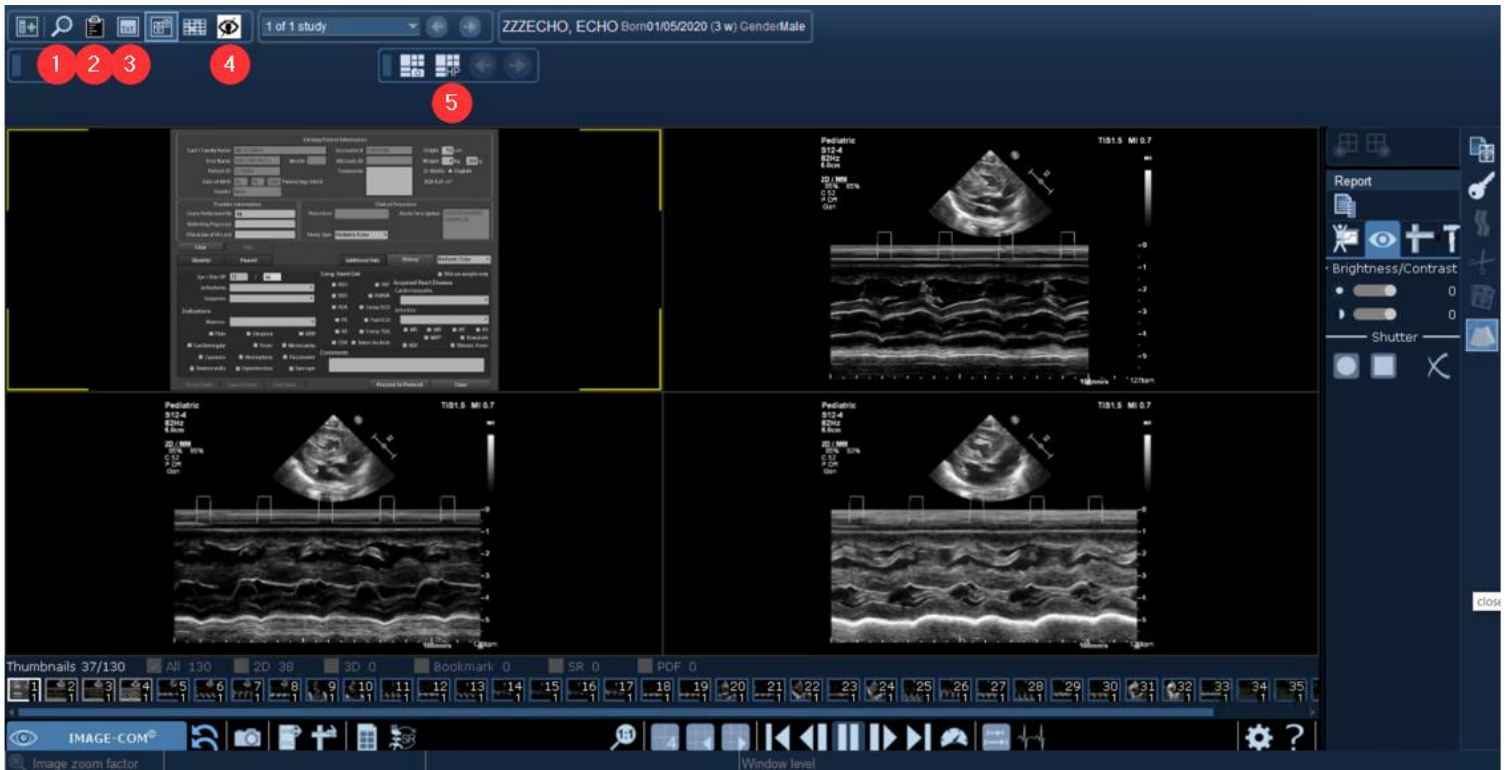


Image Visualization

TOMTEC Image Viewer

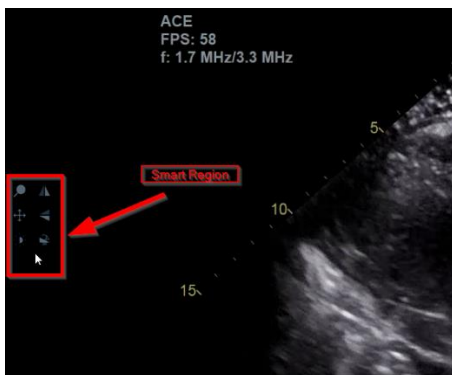
By default, ultrasound studies launch in a quad-screen view, while X-ray, IVUS and IVOCT launch in a full screen mode. The default can be changed in the "Settings". 



1. Return to Adhoc search
2. Return to Task lists
3. Return to Details Page
4. Close Image Area
5. Hanging Protocol Gallery – switch to basic US HP – QC work or exporting

Smart Regions

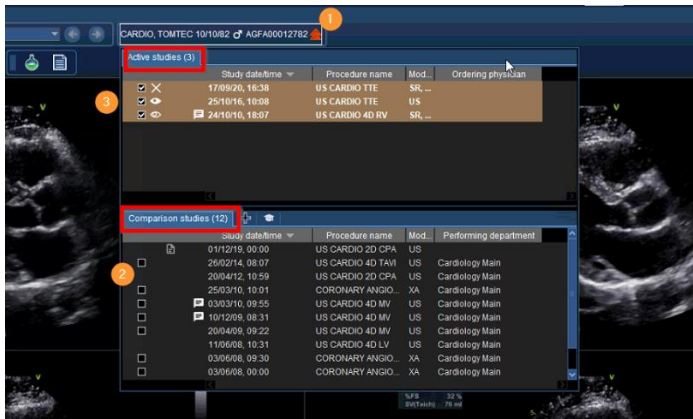
Each view port contains Smart Regions of special functions. The icons of the correspondent functions are visible by positioning the mouse cursor over a view port for a short time. The number of functions provided within the view port depends on the data being displayed. To activate a Smart Region, LMC and move the mouse horizontally. Click on the icon to activate/deactivate its function.



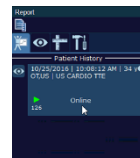
Side by Side Prior to Current Study Comparison

1. Select the active patient study window

2. Select the appropriate comparison studies
3. Newly selected comparison studies will be listed in the active studies box



4. Select the patient history icon to toggle between the comparison studies
5. Select the desired prior comparison study in the patient history tab.



6. The prior study will load in the thumbnail section of the viewer.
7. Drag and drop thumbnails into the active workspace to compare images of the prior study with the current study.

Note: prior study images will have a light blue frame outlining the image and includes the study date and time.

Exporting and Importing Measurements

To import measurements from the image viewer into the structured report, select the measurement icon and the report will update with the newly imported measurement



Performing measurements

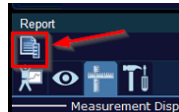


- Select the measurement tab
- Select the exam type: i.e. echo, vascular, cath
- Select the measurement group
- Select the desired measurement
- Perform the measurement on the desired image
- Press ESC, double click, or RMC to end the measurement task
- Results can be viewed by moving the mouse off the image view port.



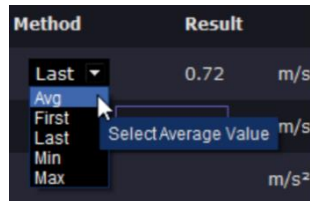
Measurement Worksheet

- Select the launch Worksheet icon



- If a measurement has been performed multiple times, select value that should be exported into the structured report. Example:

- Average
- First
- Last
- Min
- Max



Note: The default selected value is Average.

- Delete measurements choosing the desired "Delete" criteria marked with a red "X".
 - Selected Value
 - Entire Column
 - Entire Row



Secondary Capture

Store your measurement results on the images and cine loops using the "Save Secondary Capture" icon. The complete image region will be captured. The new object becomes visible in the thumbnail preview at the end of the study.



Exporting Images

Export a desired still image or cine image by selecting the "Save AVI or BPM" icon. If at least one loop is playing, the complete screen will be exported as AVI, otherwise the image will be saved as a BMP, PNG, or JPG.



Reset Images

Restore the dataset to the original acquired layout by selecting the reset icon.



Structured Reporting

1. Select Patient
2. Select Start Reading, RMC or Double -click on patient
3. Upon launch reporting opens and images appear in image viewer
4. Tech Reviews the images and begins structured reporting, entering test specific findings

Study data toolbar

Review and edit study data

Clinical reporting interface

Review and edit clinical findings

Workflow toolbar

Change study status

ASCEND Data Images Participants Study details Workflow Print

TEST SYSTEM NOT FOR CLINICAL USE To be read For attending overread Preliminary release Sign Close

Undo Redo Help Options Catalyst

Study Measurements Calculations Diagrams Minor abnormalities Findings Comparisons

Findings Report

Correct function of this knowledge base has not been verified

ASCEND General Hospital
1234 Main St. Anywhere, USA 02345
Phone: (800) 555-1234
Fax: (800) 555-1235

Transthoracic Echocardiography
M-mode, complete 2D, and complete spectral Doppler

Patient: Mitchell Carson Study date: 07/23/2015 Height: 178 cm (70.1 in)
MRN: #3162935 (MRN) Birth date: 12/25/1947 Weight: 73 kg (160.9 lb)
Accession: #12453 Age: 67 year(s) BSA: 1.9 m²
Patient location: EC 2B 2011 Birth gender: M BMI: 23 kg/m²
Study status: East Campus Patient status: Observation HR:
BP:

Summary: [New summary item](#)
Recommendations: [New recommendation](#)

Prior history: [Allergies](#), [Aspirin allergy](#)

Study data: Race: White Patient unit: EC 2B Patient room number: 2011 Procedure: Transthoracic echocardiography was performed. Image quality was adequate. Scanning was performed from the parasternal, apical, and subcostal acoustic windows. Study completion: The patient tolerated the procedure well.

Left ventricle:
[Suggested interpretations](#)

Aortic valve:
[Suggested interpretations](#)

Right ventricle:
[Suggested interpretations](#)

Pulmonary arteries:
[Suggested interpretations](#)

Measurements

Patient: Carson, Mitchell MRN: 3162935 (MRN) Module: Echocardiography (Single physician case) DOS: 07/23/2015 09:38 PM Status: In progress User: Abrahams, Tim, MD

Status bar

Identifies patient

Identifies study

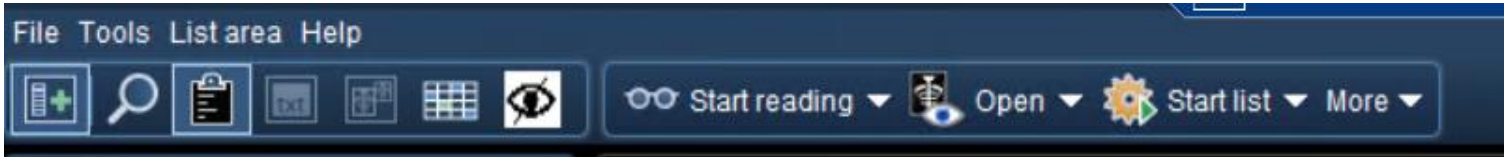
Identifies user




5. Tech selects "To Be Read" in reporting which closes reporting and image viewer.
6. Tech assigns cardiology reading group/physician via EI worklist
7. Cardiologist group/physician finds assigned studies on EI worklist and launches study
8. Once launched, reporting opens, and images appear in image viewer
9. Physician reviews the images and finalizes report findings
10. Physician selects "Sign" in reporting and the report and image viewer close
11. Finalized report sent to EHR

UNIT TRAINING

Toolbar Icons




Tools necessary to manipulate the system.



1. **File** Menu Option
 - a. Logoff
 - b. Exit
2. **List Area**
 - a. Activities Overview
 - b. Customize columns
3. **Tools** Menu Option
 - a. Options
 - b. Collaborator tool
4. **Help** 
5. **Hide Navigation** 
6. **Search** 


Search Feature

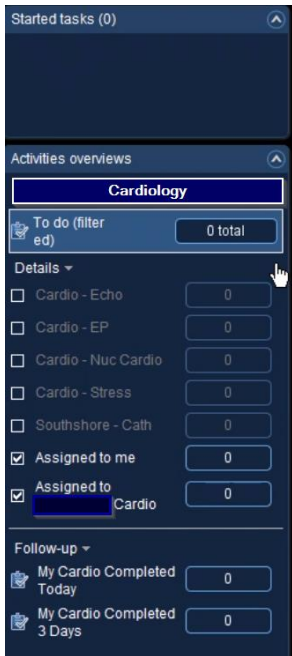
The search option allows a user to perform an ad-hoc search to locate a study

1. Select Search icon  in the tool to begin an ad-hoc search
2. Input search criteria (i.e., Patient ID, patient last name, accession number)
3. Select  button
4. Search results will display with the number of results that meet your search criteria 
5. Double click or right mouse click on the line of the study you wish to display

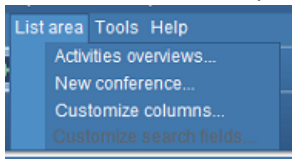
Activity Overview(s)

Provides an overview of the tasks to perform, studies of interest, and pending conferences

1. Select List Area (Tool bar) 
2. Select Activities Overview drop-down list
3. Select specific AO task list



4. If your Reading Task is not visible, then
5. Select List Area on top toolbar



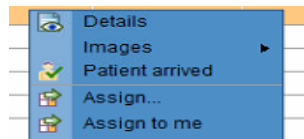
6. Select specific Task

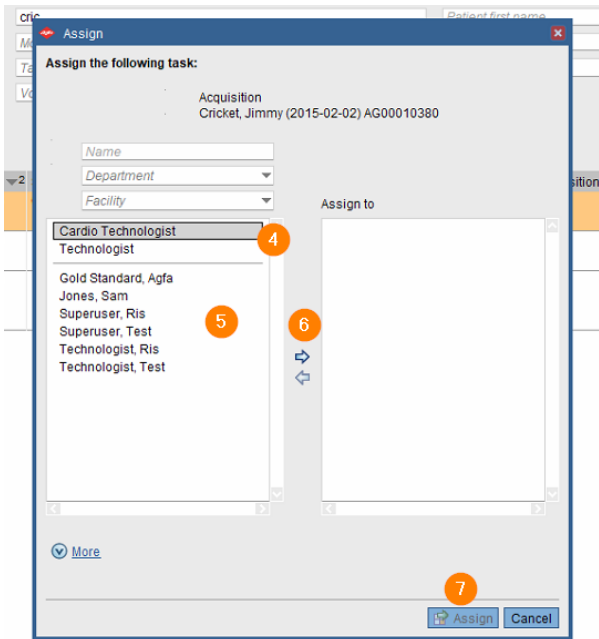
Manage Activities Overviews								
Overview								
2 results <input type="checkbox"/> Include inactive								
Show in drop-down list	Default	Personal	Code	Name	Available for System	Active from	Active to	
<input type="checkbox"/>	<input type="radio"/>		ACTOV4	Clinician		2017-03-01		
<input checked="" type="checkbox"/>	<input checked="" type="radio"/>		ACTOV1	Acquisition tasks (Modality Overvi...	Technologist			

Assign To


Distributes tasks responsibility. You can assign a task to yourself or others

1. Select Patient from worklist
2. Right click
3. Select "Assign" or "Assign to me"
4. Select Group (above line) or
5. Select Individual (below line)
6. Push to "Assigned to"
7. Select Assign

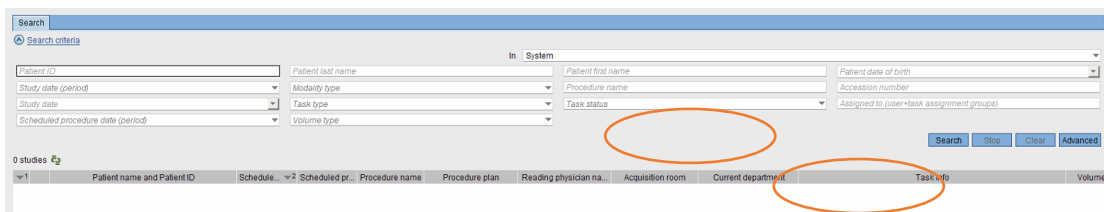


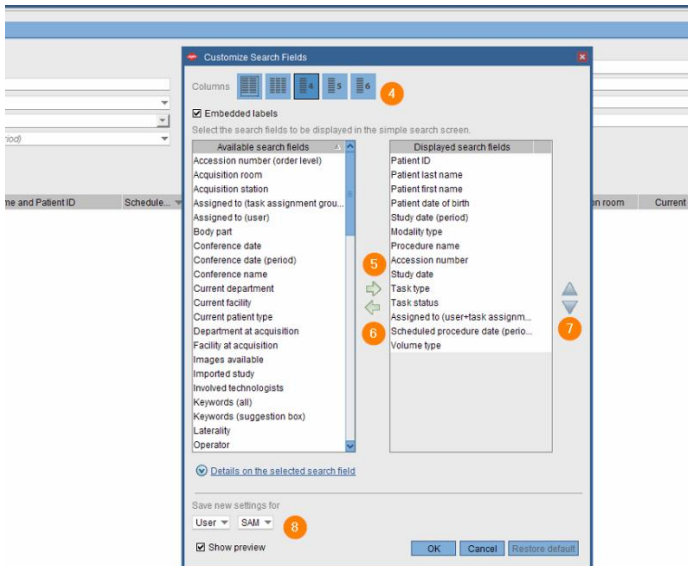


Desktop Customizations

Desktop customization can be made by right mouse clicking in the gray area, ( indicates gray areas)

1. Select gray area in search field or search columns
2. Right mouse click
3. Select customize fields or customize columns
4. To specify the number of search columns, click the perspective column button
5. To display additional search fields, select and move items from Available to Displayed search fields
6. To hide currently displayed fields, reverse this procedure
7. To change the displayed order, select up/down arrows to right of displayed field
8. This setting will save for the login user; generally only admins can save for other users
9. Select OK

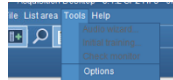




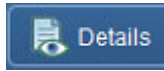
(F12) Options

Defines the settings that change the look and feel of the desktops.

1. Select Tools or F12
2. Select Options
3. Selecting Lists allows customization of items related to List area
4. Selecting Text allows customization of items relate to Text area
5. Selecting Images allows customization of items related to Image area
6. Selecting Others allows you to turn on or off the collaborator tool for default login setting.



Text Page Details



1. Patient information
2. Active studies
3. Comparison studies
4. Images
5. Report
6. Comments
7. RMC-compare, display, and add images to clinical sidebar
8. Study
9. Report
10. Exam
11. Acquisition

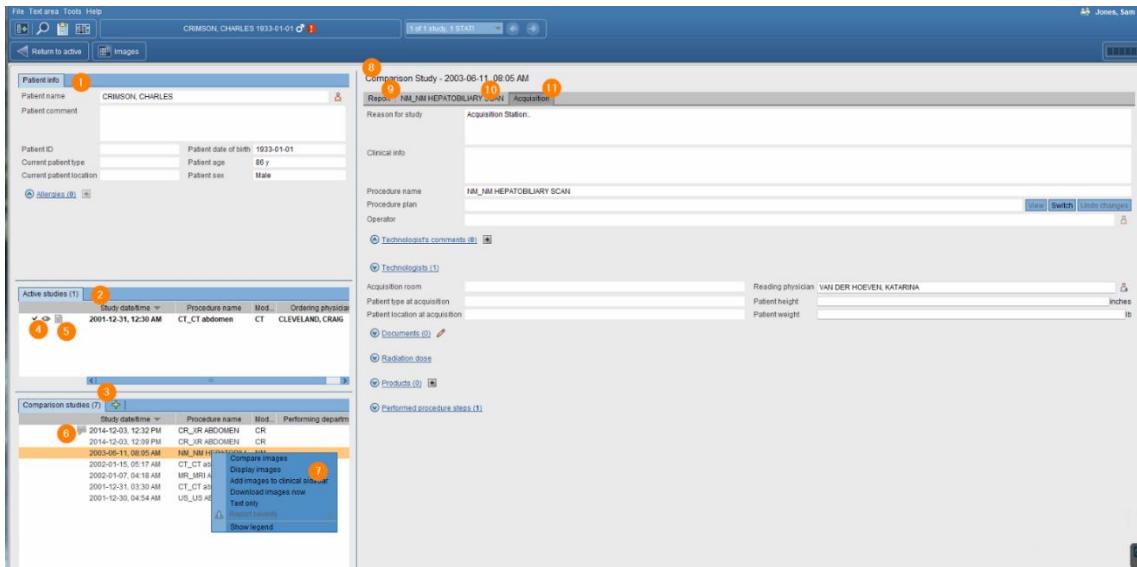
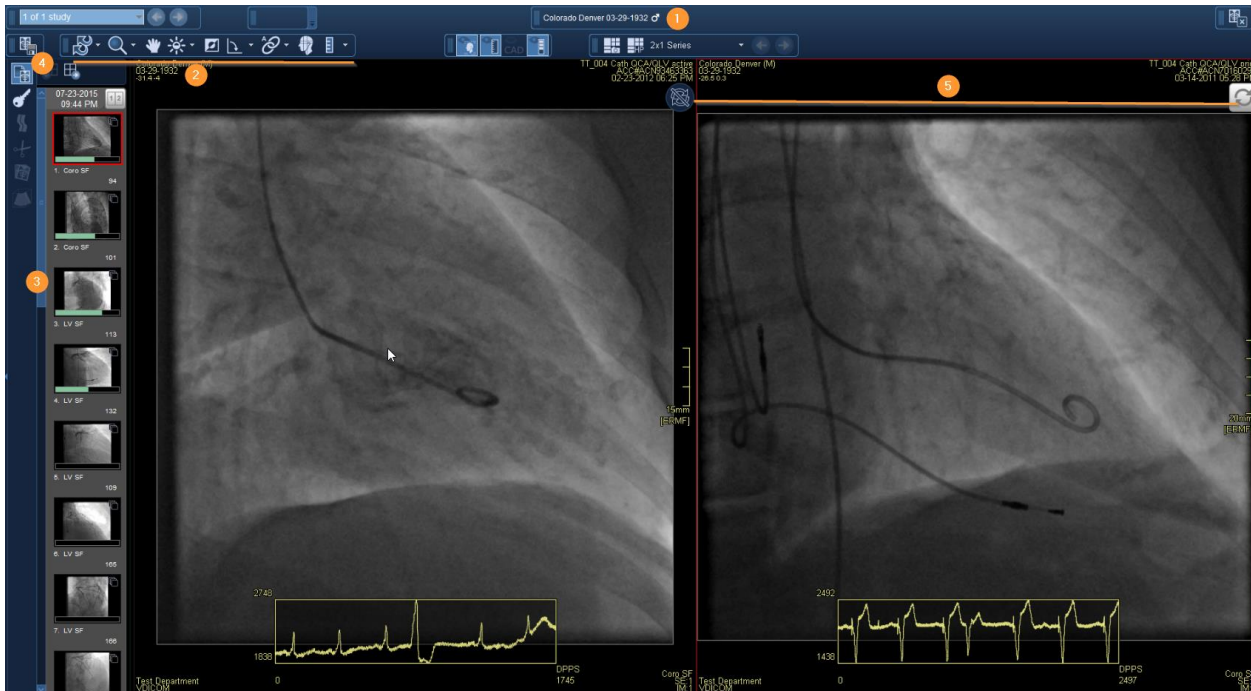


Image visualization

The image area combines all image display, manipulation, and enhancement tools for reading in EI.

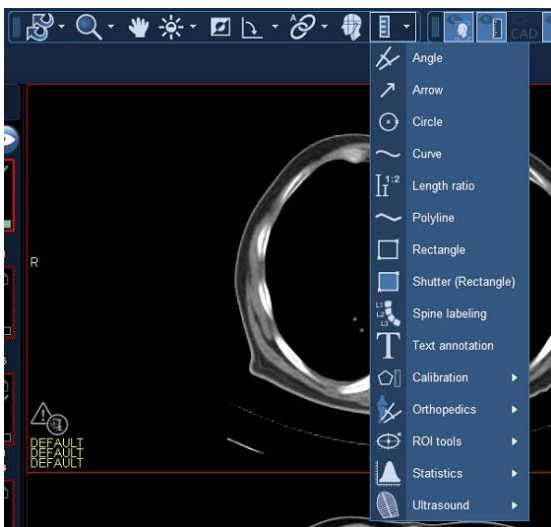
1. Patient banner
2. Tools
3. Clinical sidebar
4. Save Presentation State and Create snapshot
5. Active vs Comparison





Note: Image area markup tools-calibrate images, take measurements, highlight and annotate areas with arrows or text. You can also hide, modify, or delete markups.

1. Activate tool with LMC, see tool attach to arrow
2. Utilize tool with left click
3. Deactivate tool with RMC, tool will no longer be attached to arrow
4. NOTE: if there is a dropdown to the right of tool, indicates more options



Configuring Default Tools

1. Select tool, create measurement, and deactivate
2. Hover over measurements with left click till you see enhanced measurements
3. Right mouse click to see an additional box with options

4. Select side arrow to see additional options
5. Select or deselect desired options
6. These measurement setting will be set as the users default and will not have to be changed again

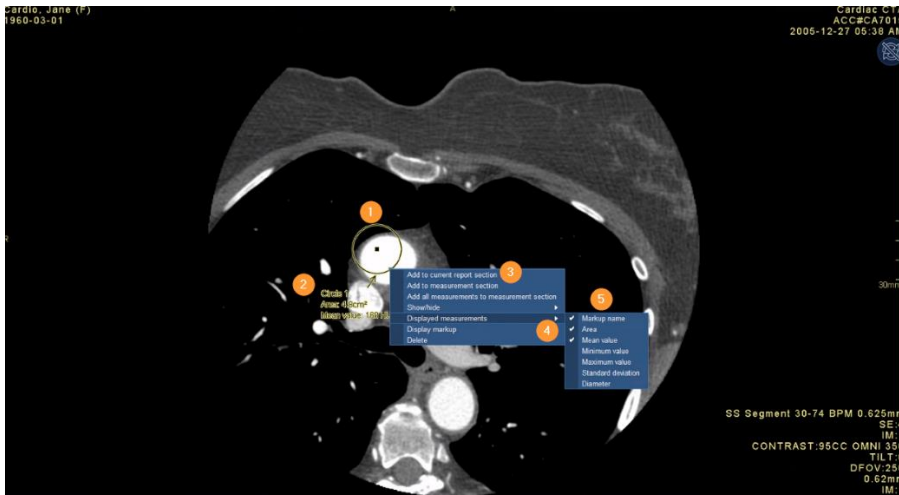
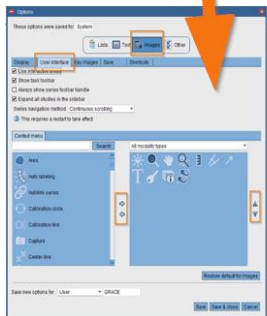
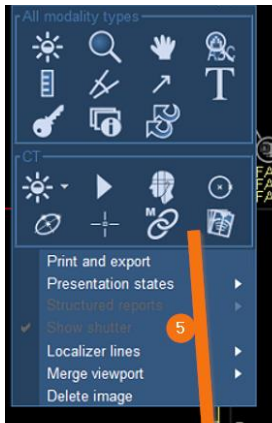


Image Area Context Menu

Access a selection of relevant tools without leaving the current image with the pointer

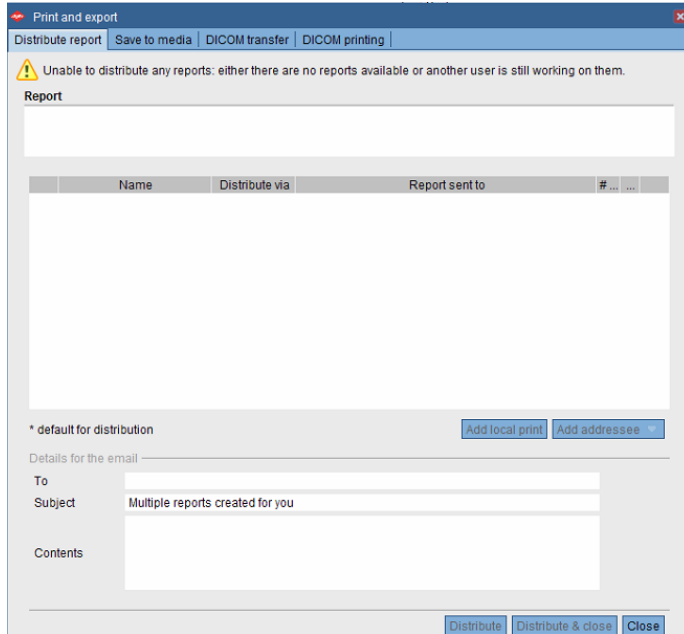
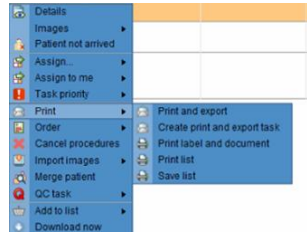
1. RMC to open context menu
2. LMC on desired tool
3. Left click to utilize tool
4. RMC to deactivate
5. Customization for the Image context menu can be obtained from F12 options



Print and Export

Print, fax, email, save to media, and transfer DICOM data

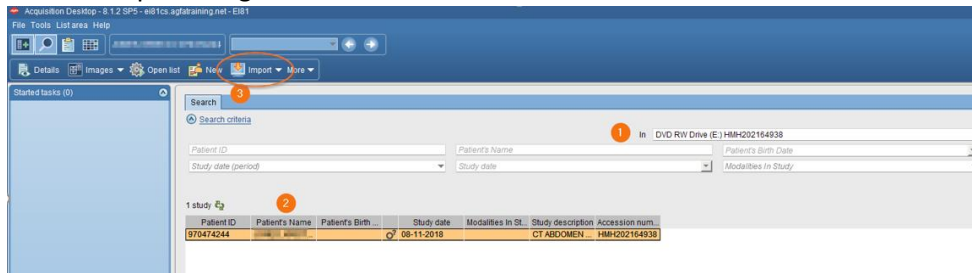
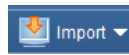
1. Select Patient
2. Select More, top toolbar
3. Select Print
4. Select Print and Export
5. Select Distribute report, Save to Media, Dicom Transfer, or Dicom Print



Import CD

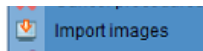
Add images from a local or external source by importing them to the currently selected study to a new order

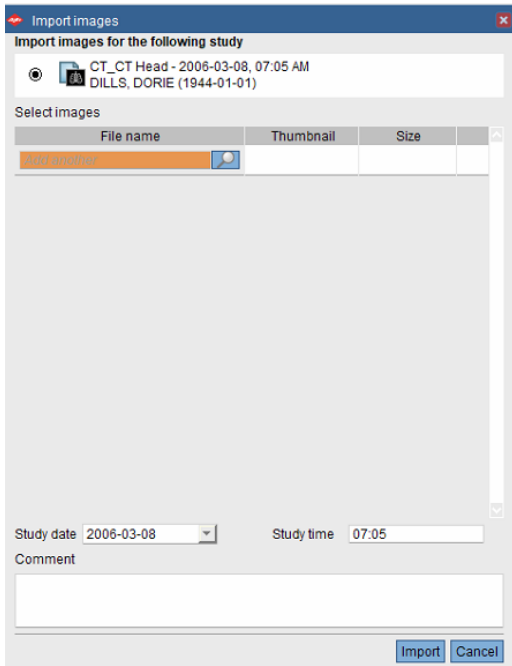
1. Select the local drive in the search area
2. Select study or studies to import
3. Click on import images



Import file From Desktop

1. Select Patient
2. Select More
3. Select Import
4. Select Import images for selected study or Import images for new order



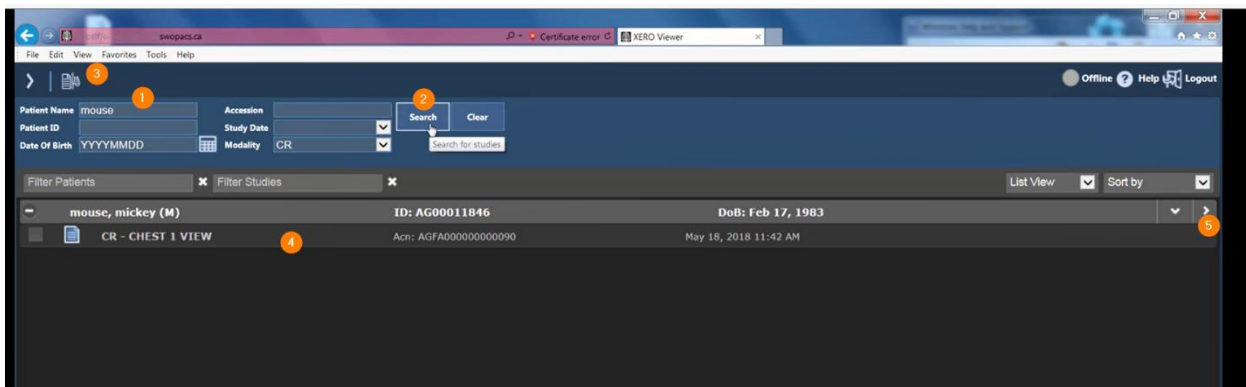


XERO

Xero is a medical image viewer that can be launched through most browsers.

Sign in URL will be provided by your organization once you login follow the steps below

1. Input information to search for patient
2. Select Search
3. Select Method of Display-report, image, or both
4. Double click on study
5. Select right arrow to show image area



1. Select arrow to scroll between images
2. Patient banner
3. Select to switch between series

4. Tools
5. Select to change layout display
6. Help
7. Logout

