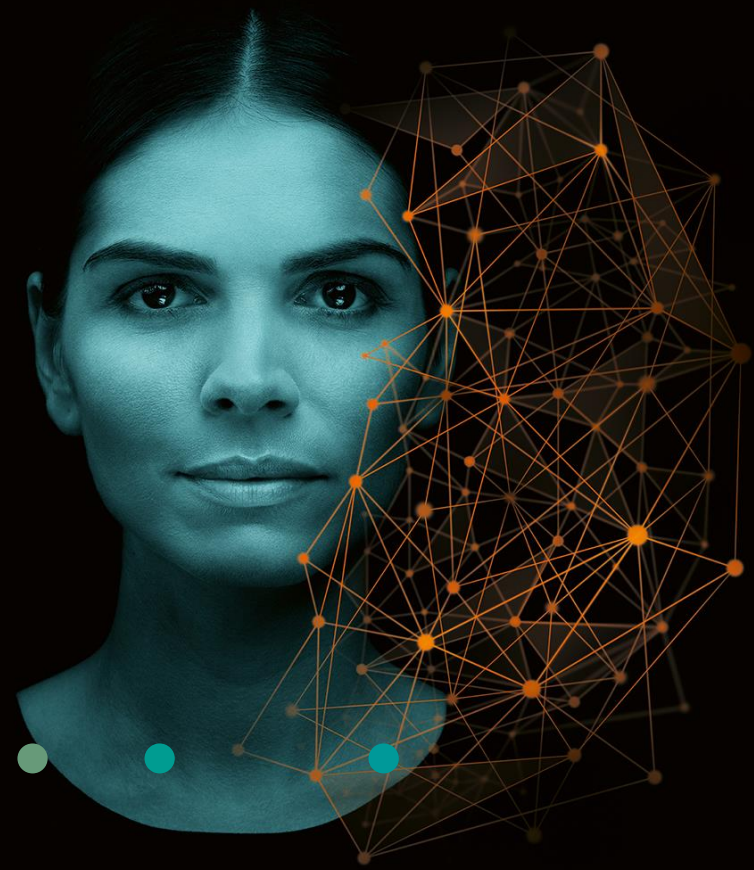
SIEMENS Healthineers

ACUSON Sequoia Ultrasound System

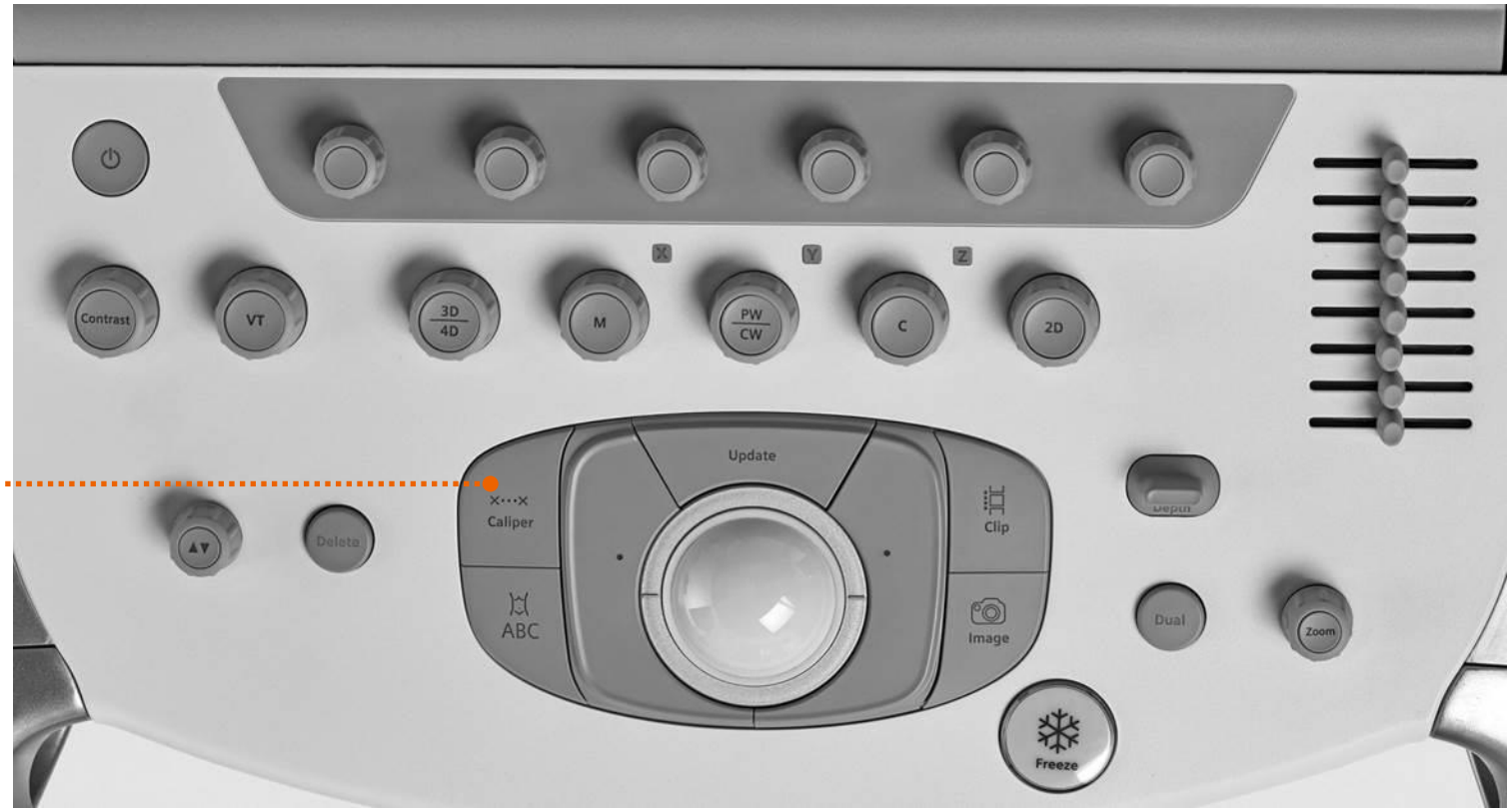
Measurements & Reports (Onscreen)
VA30 SW Release



Objectives

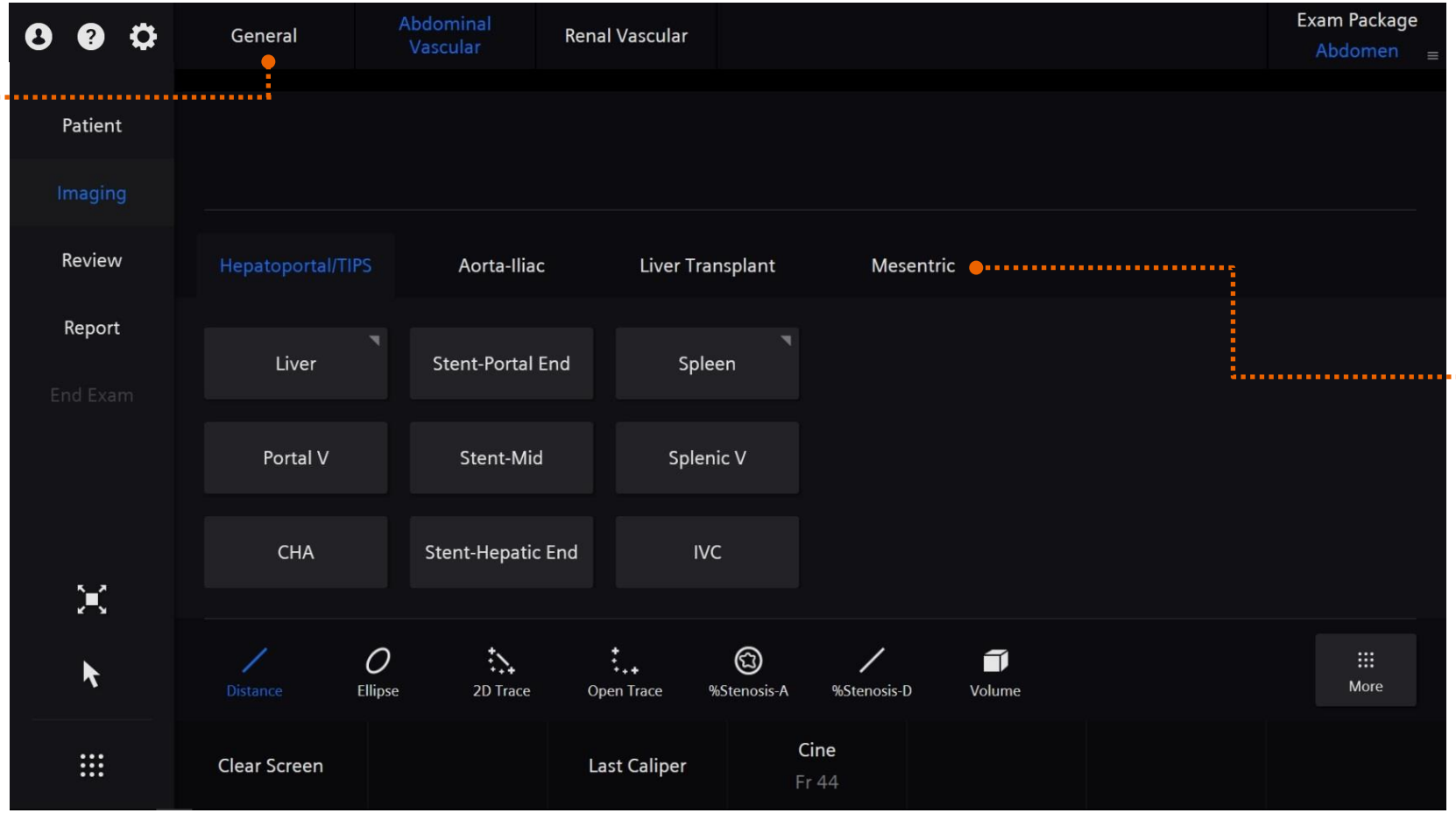
- **Identify access to measurement feature and screen information**
- Explain editing and deleting measurements
- List exam specific measurement options
- Examine report access, layout and editing
- Outline printing options

Accessing measurement feature



Touch screen display layout

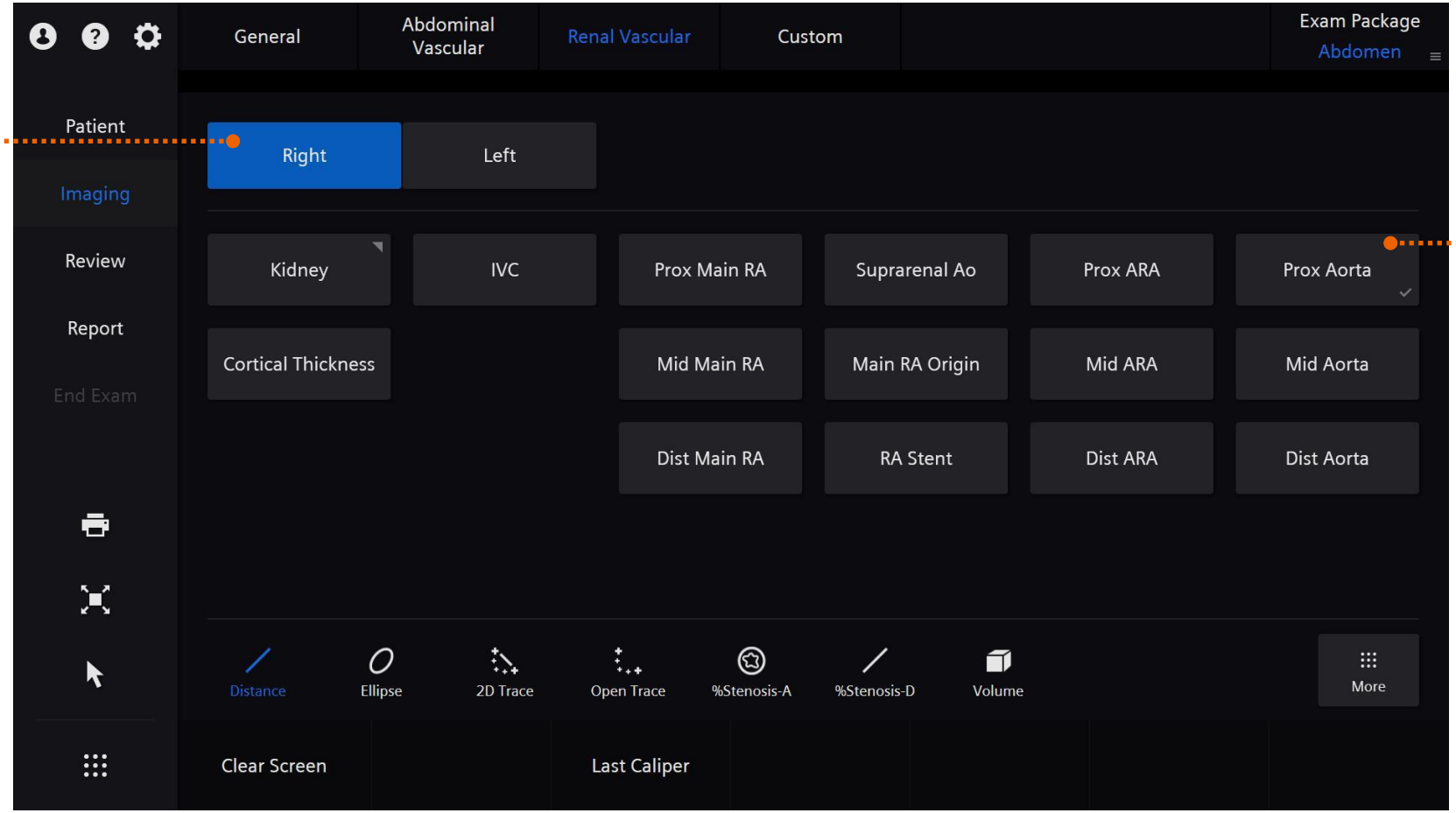
Main label Groups



Label sub-groups

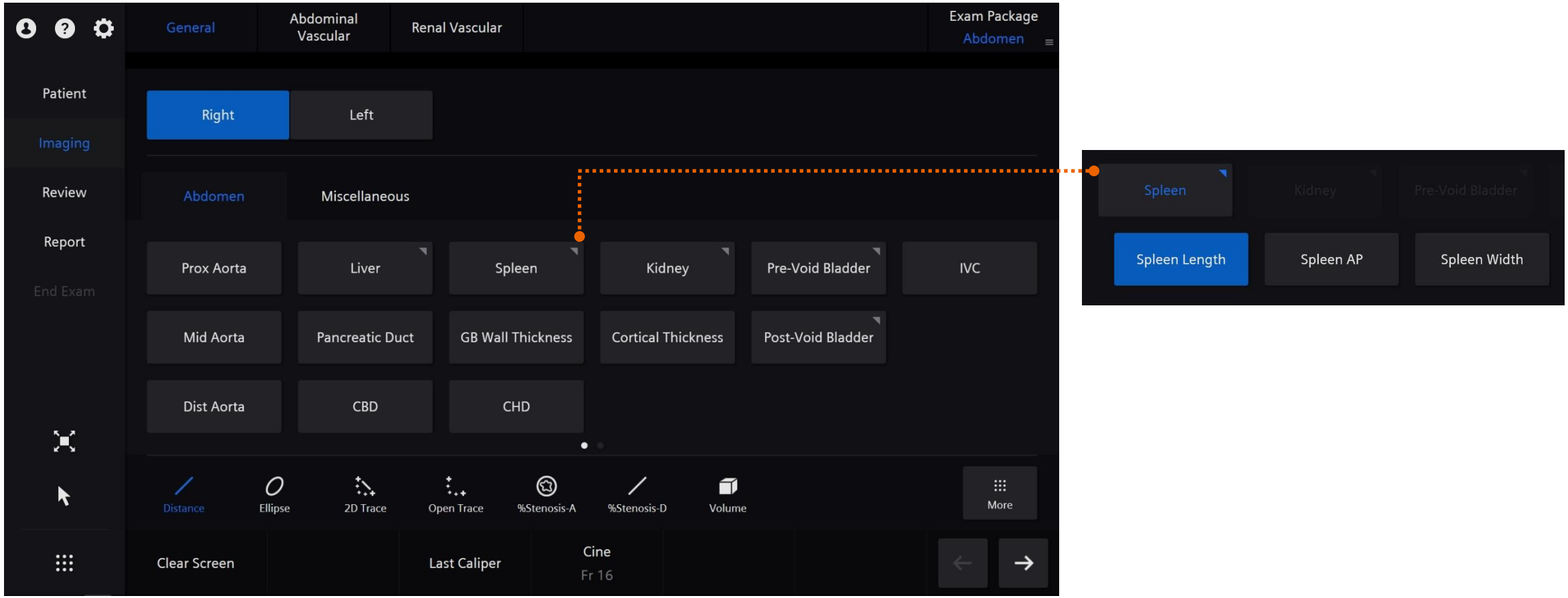
Touch screen display layout

Right / Left options are displayed on every page

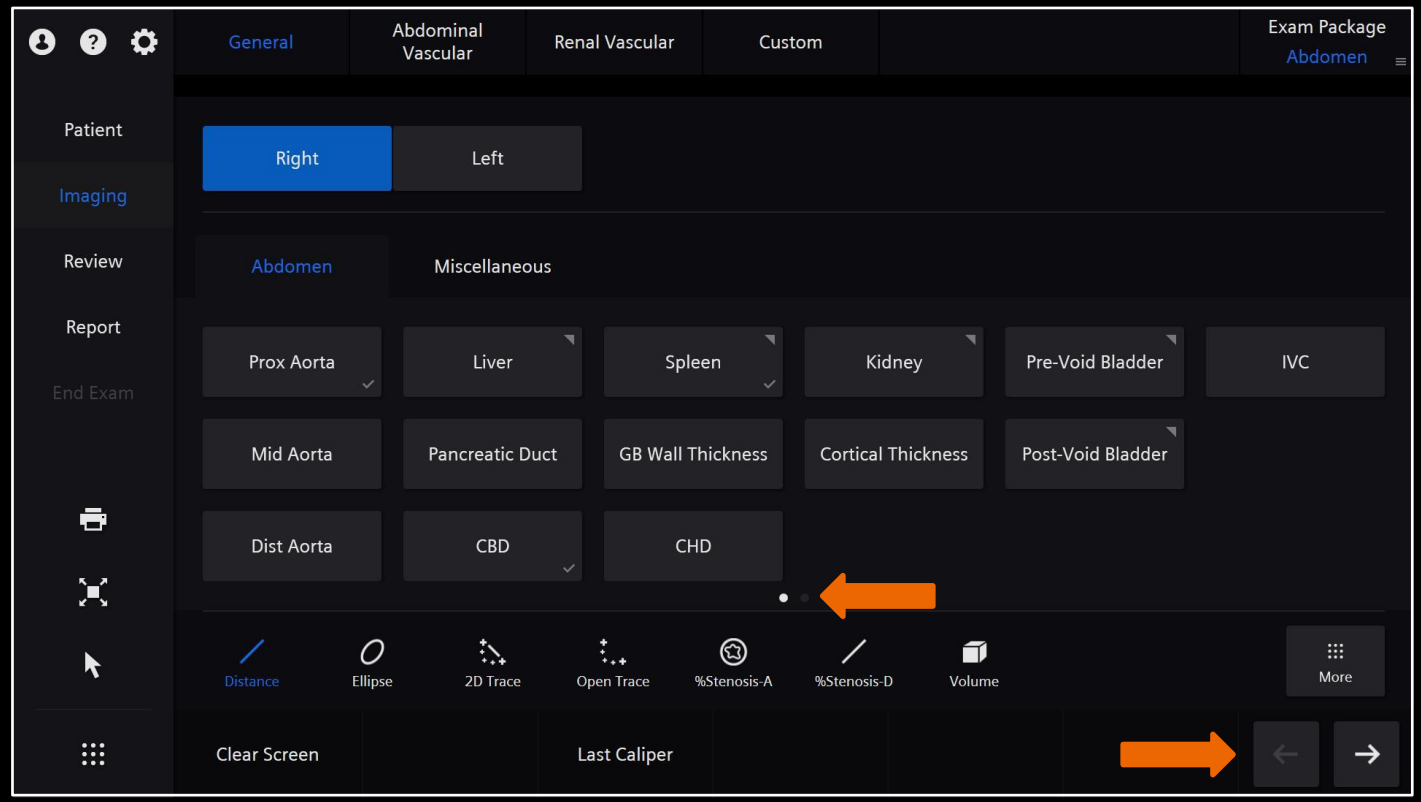


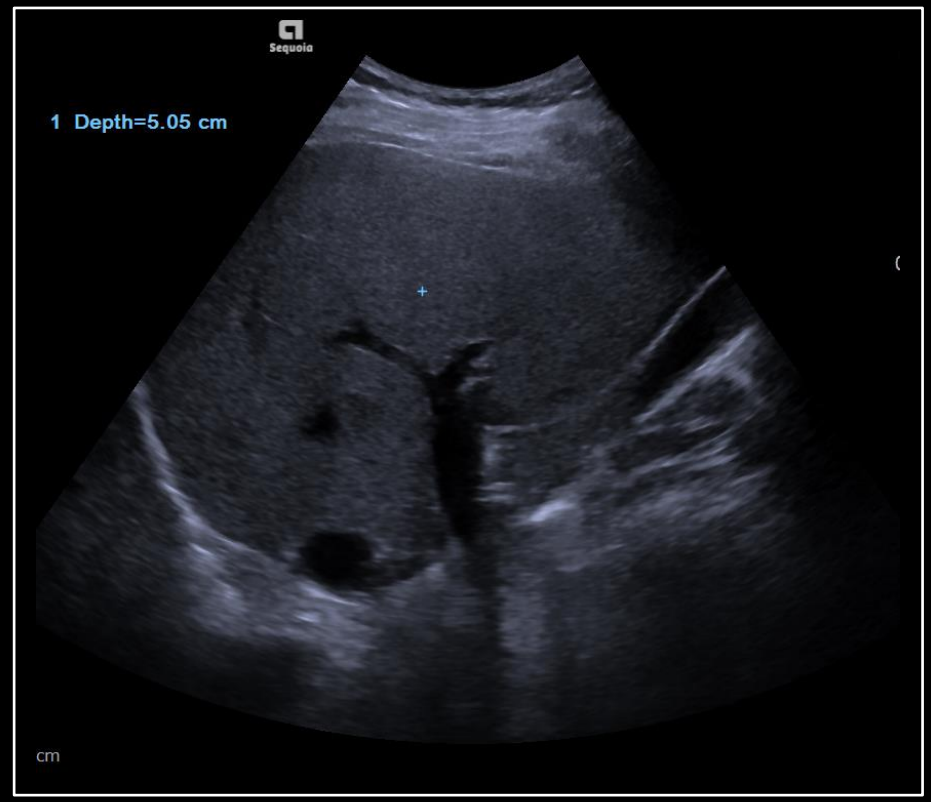
Modifiers are embedded within labels

Touch screen display layout
Continuous measurement folders

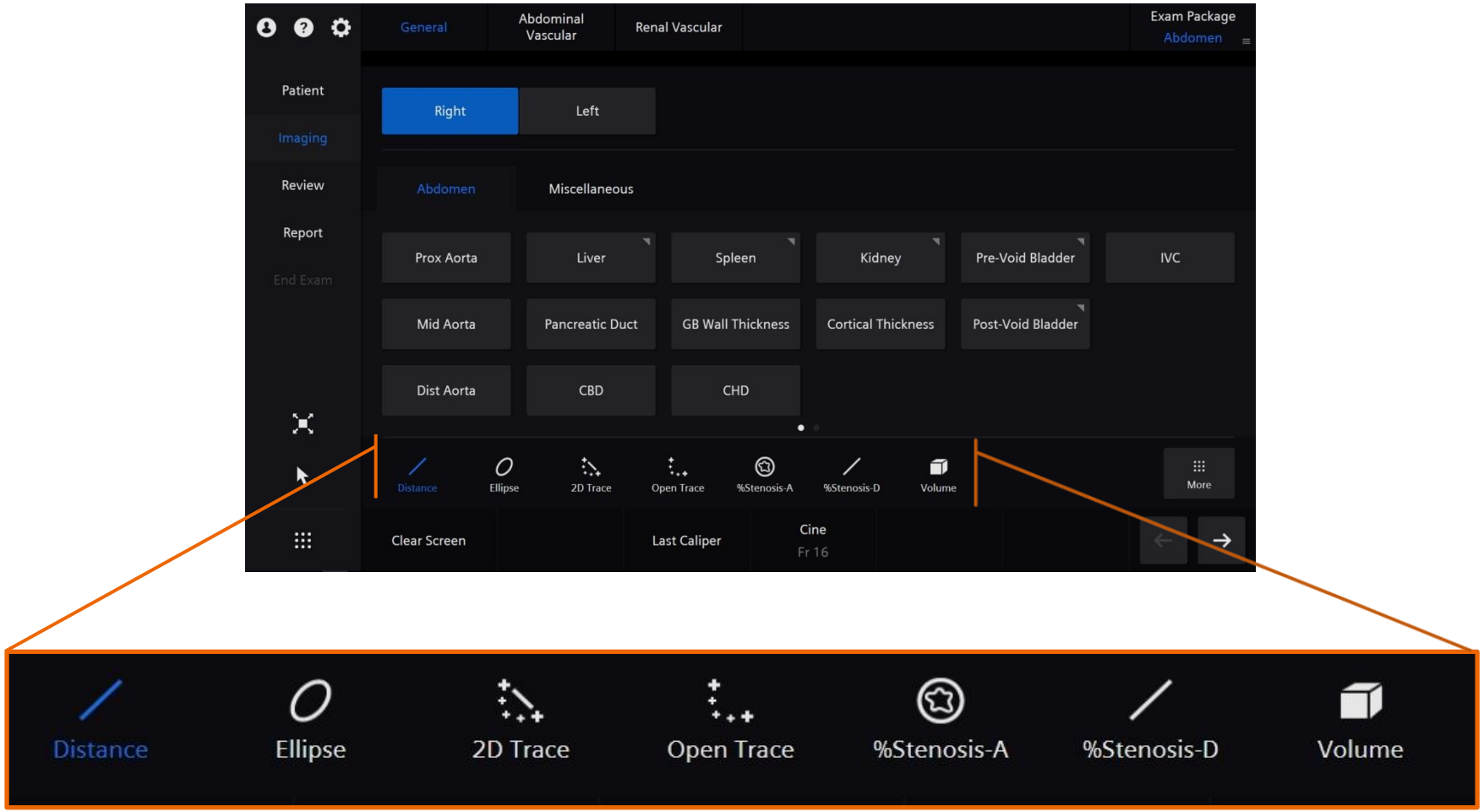


Touch screen display layout

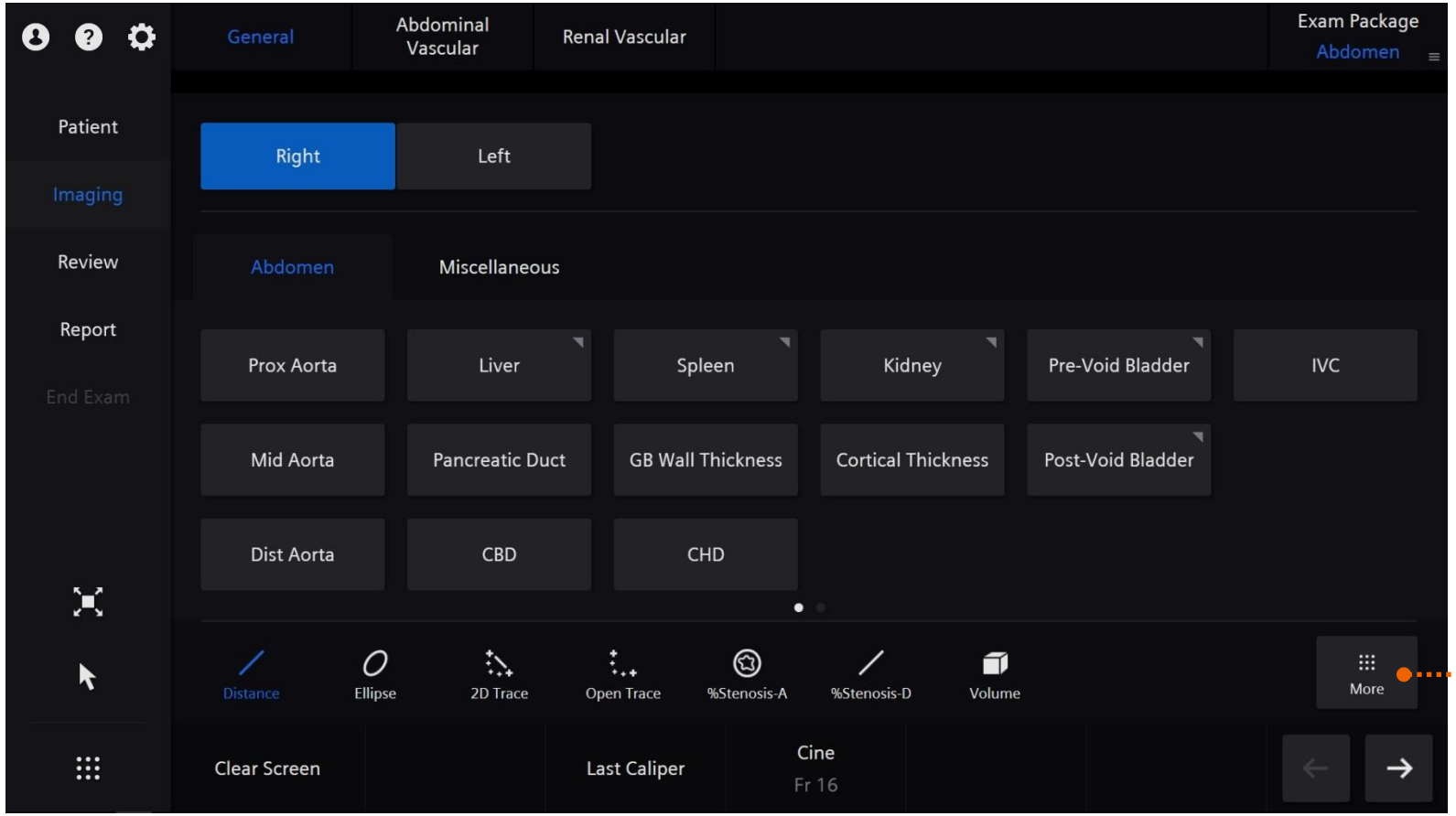


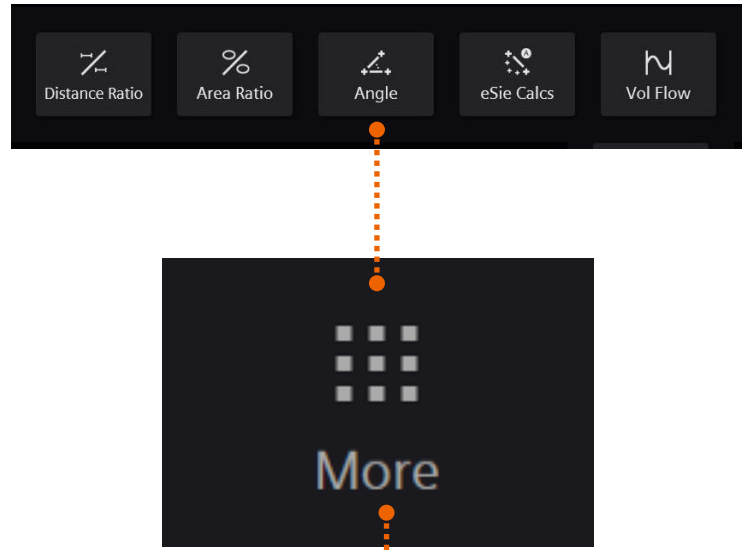


Generic measurements
Tool bar



Generic measurements “More”

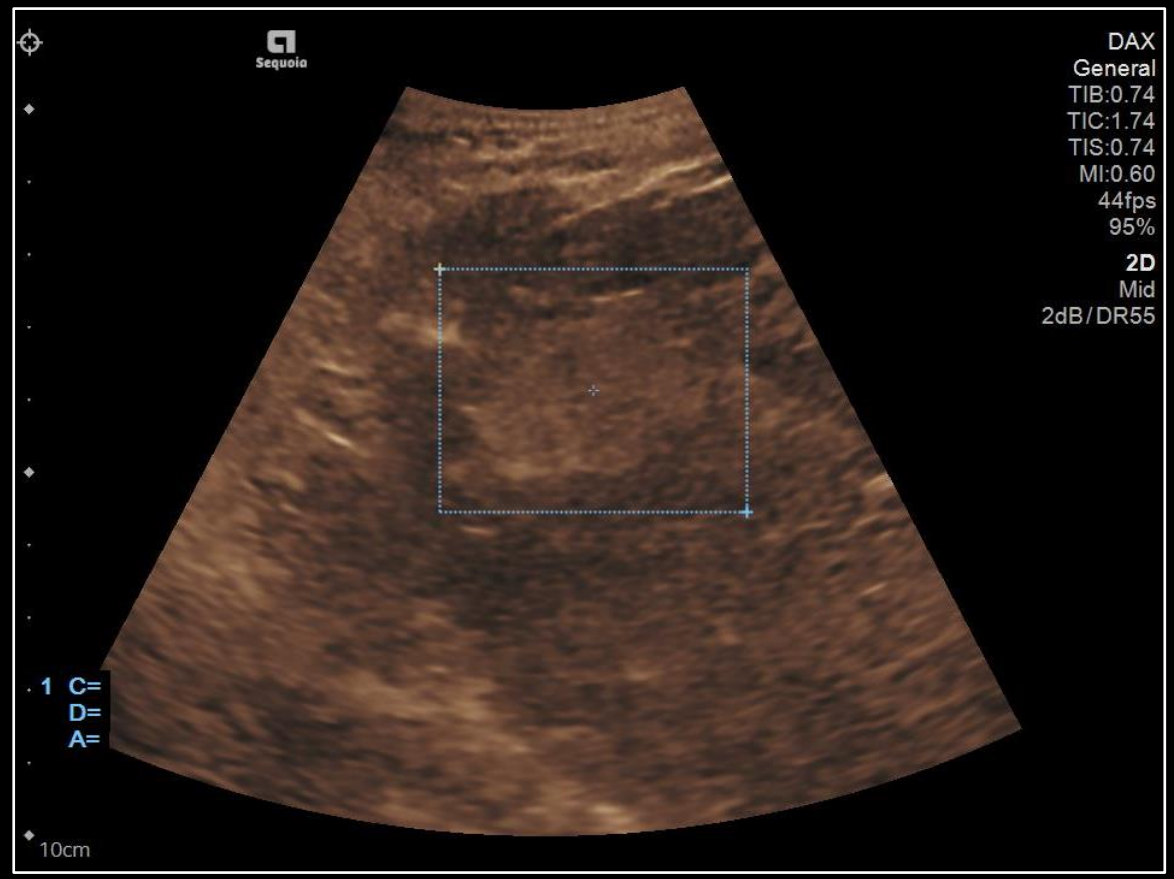




“More” options
eSieCalcs

- Pattern recognition software that traces and measures the circumference, diameter, and area of a structure
- Select **eSieCalcs**

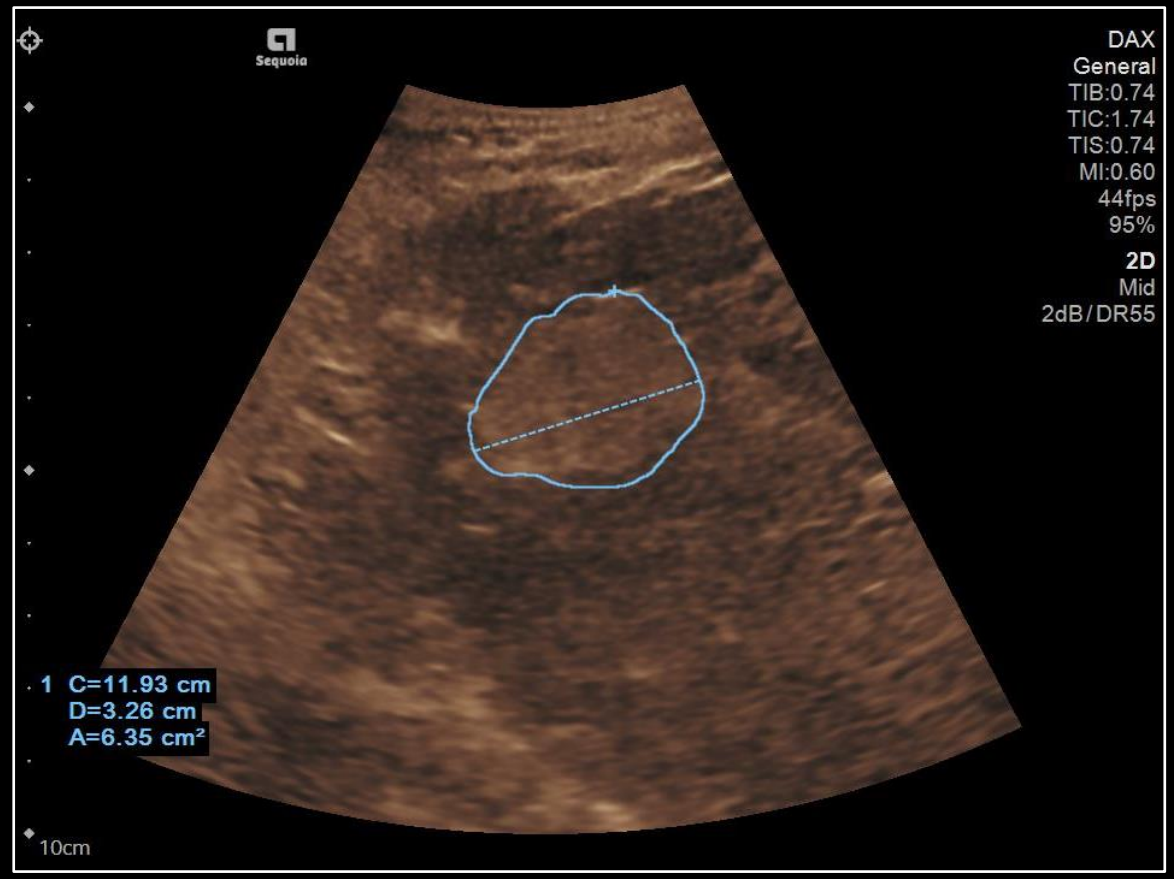
- Position and anchor the first marker
- Roll the trackball to display a rectangle to encompass the structure of interest
- Press **Set** and the system will trace the structure – to accept and complete the measurement select **Set** again



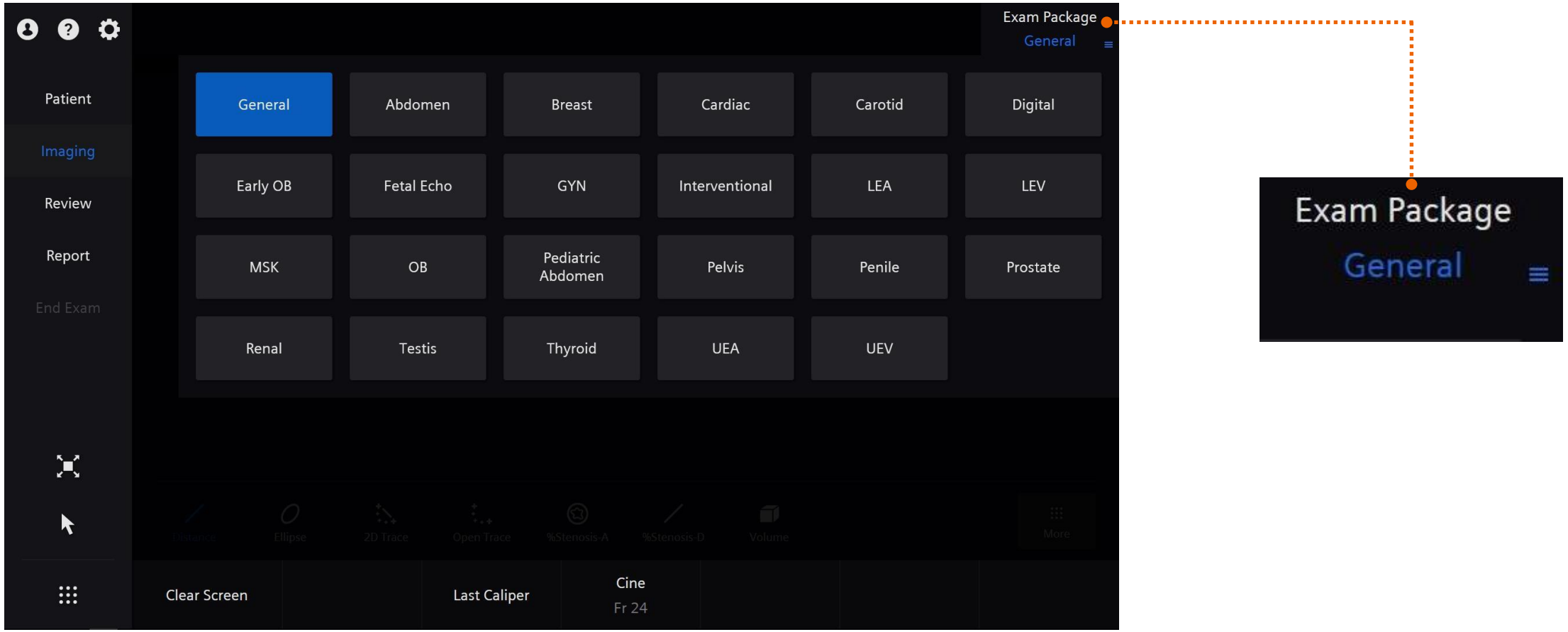
“More” options
eSieCalcs - edit

Use the **Undo** key to edit the trace

- Select **Last Caliper**
- Rotate or continuously press the **Undo** key until the segment is deleted
- Use the **Update** (**Toggle**) key to switch between the two caliper points and re-draw the trace
- Press **Set** to complete the new trace

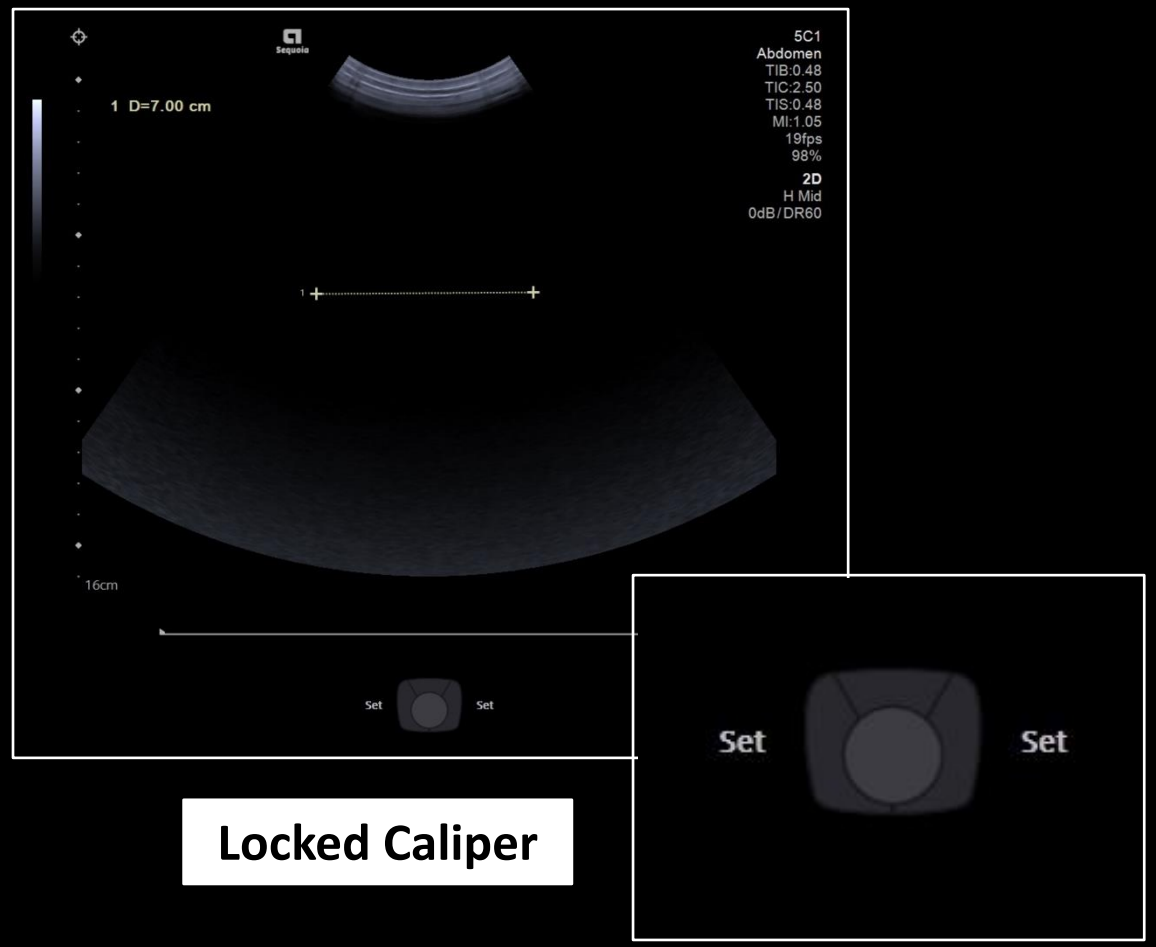


Accessing additional exam calculation packages



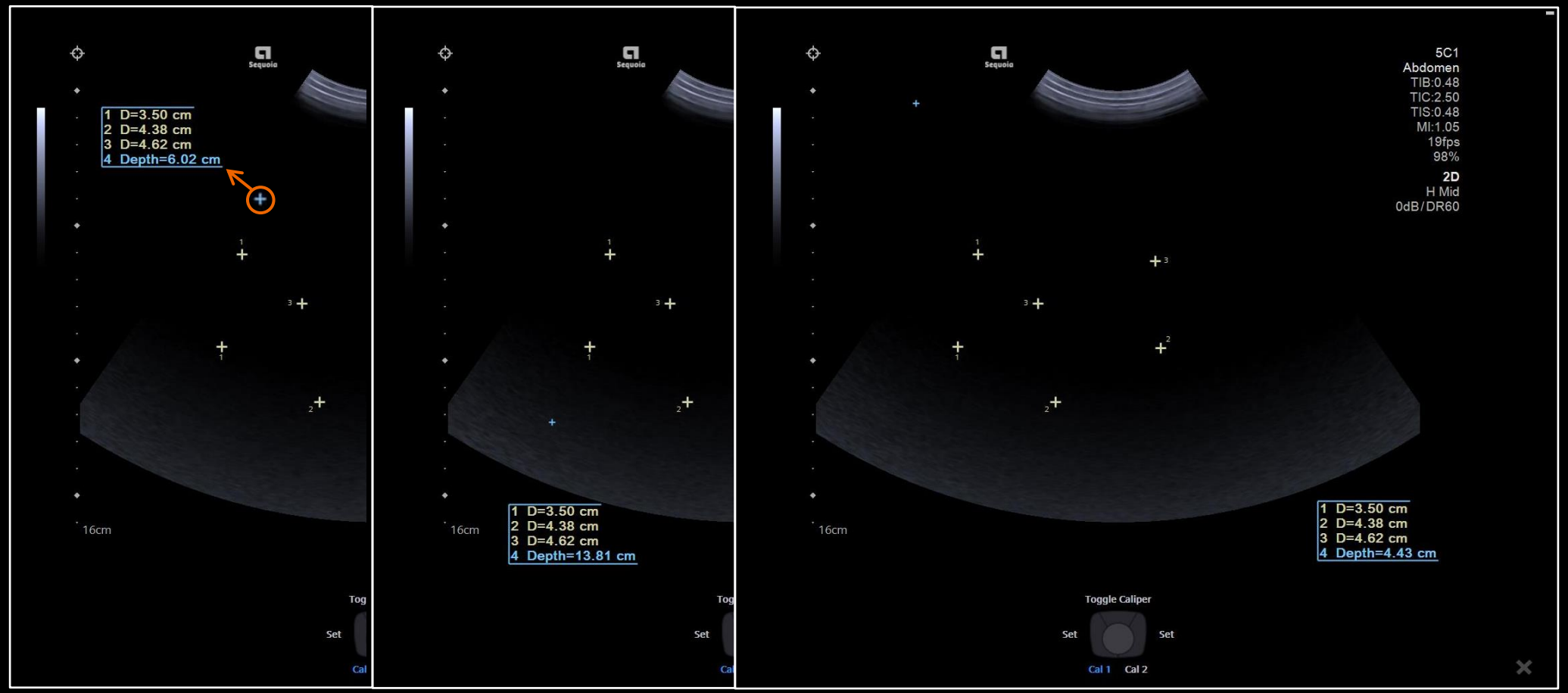
Active / locked caliper trackball options

Active Caliper

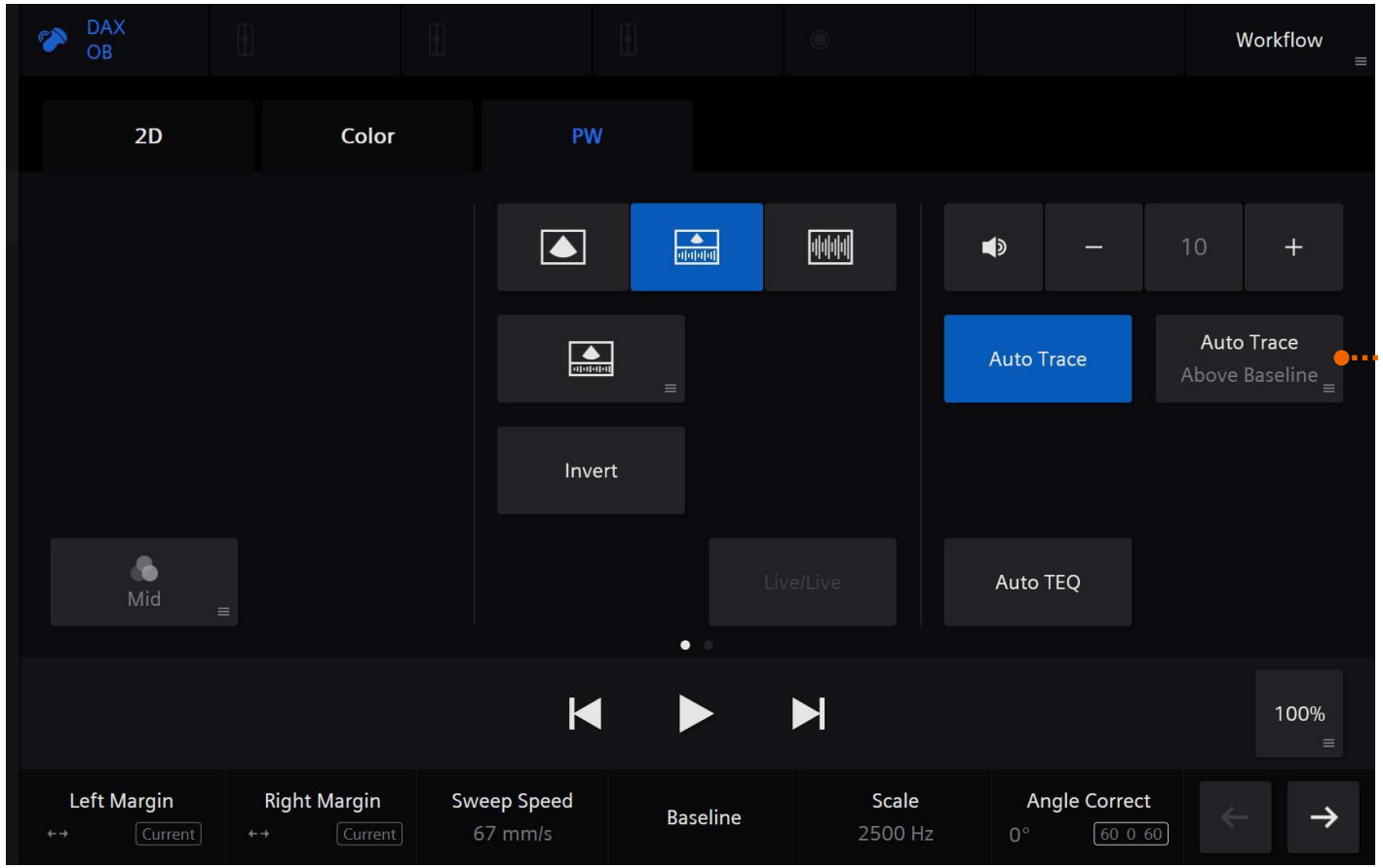


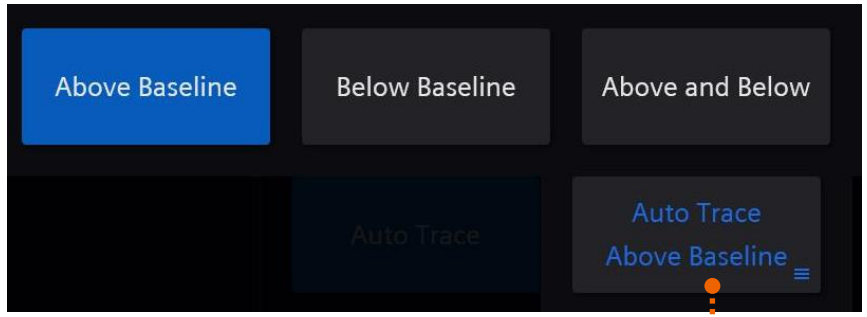
Locked Caliper

Reposition the measurement display area (MDA)

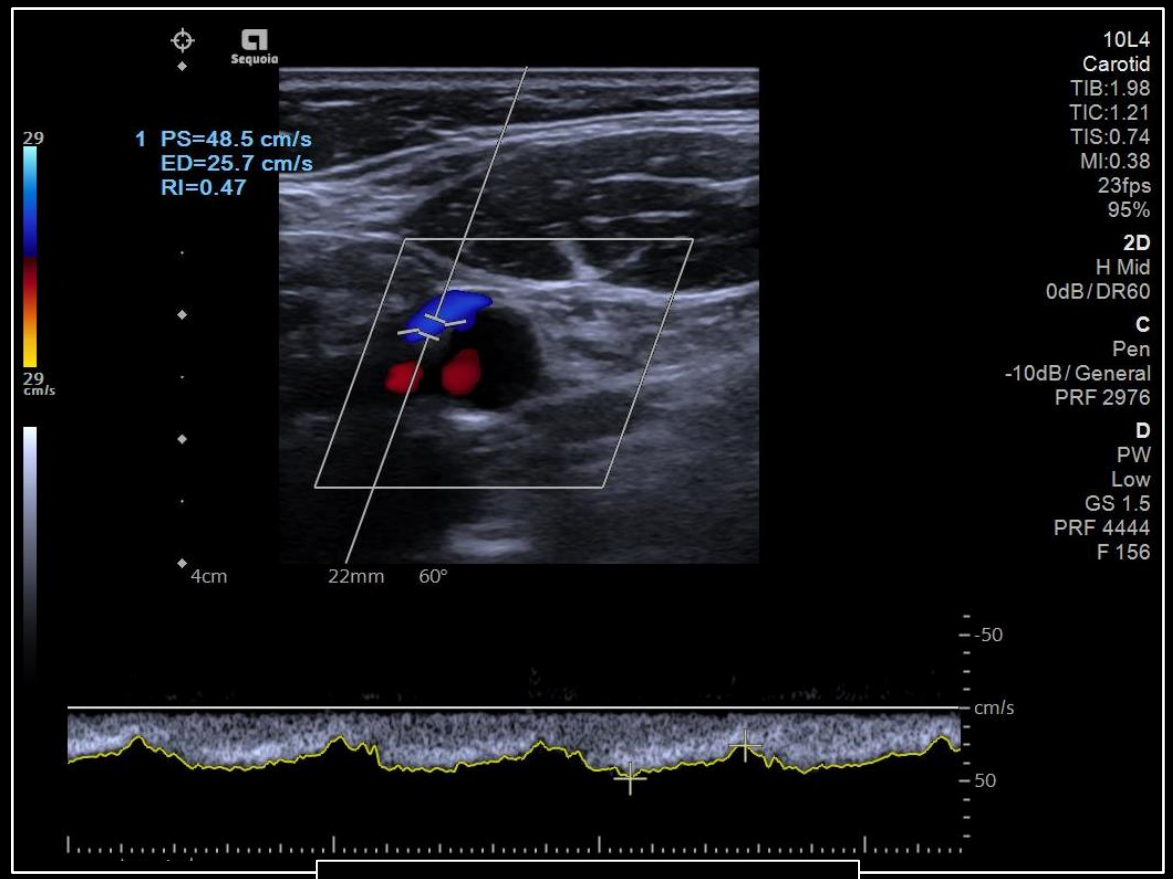


Auto trace

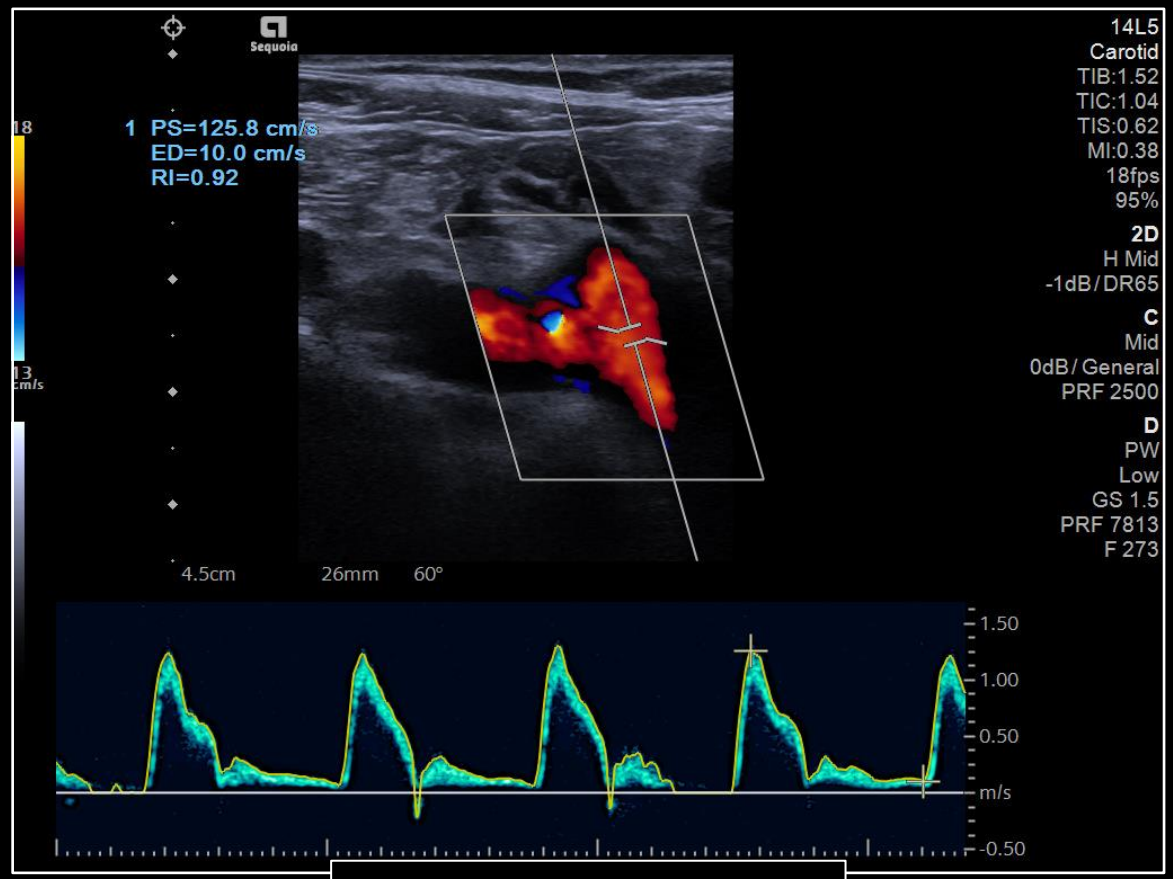




Auto trace Example



Below the baseline



Above the baseline

Objectives

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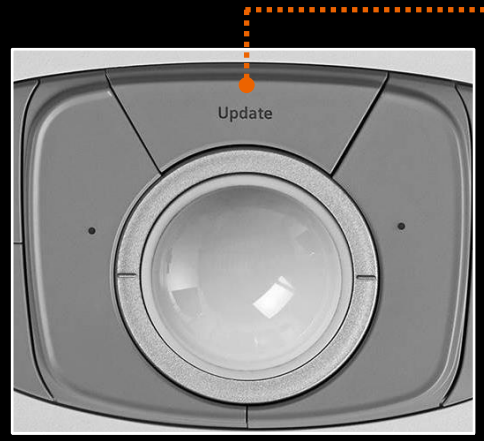
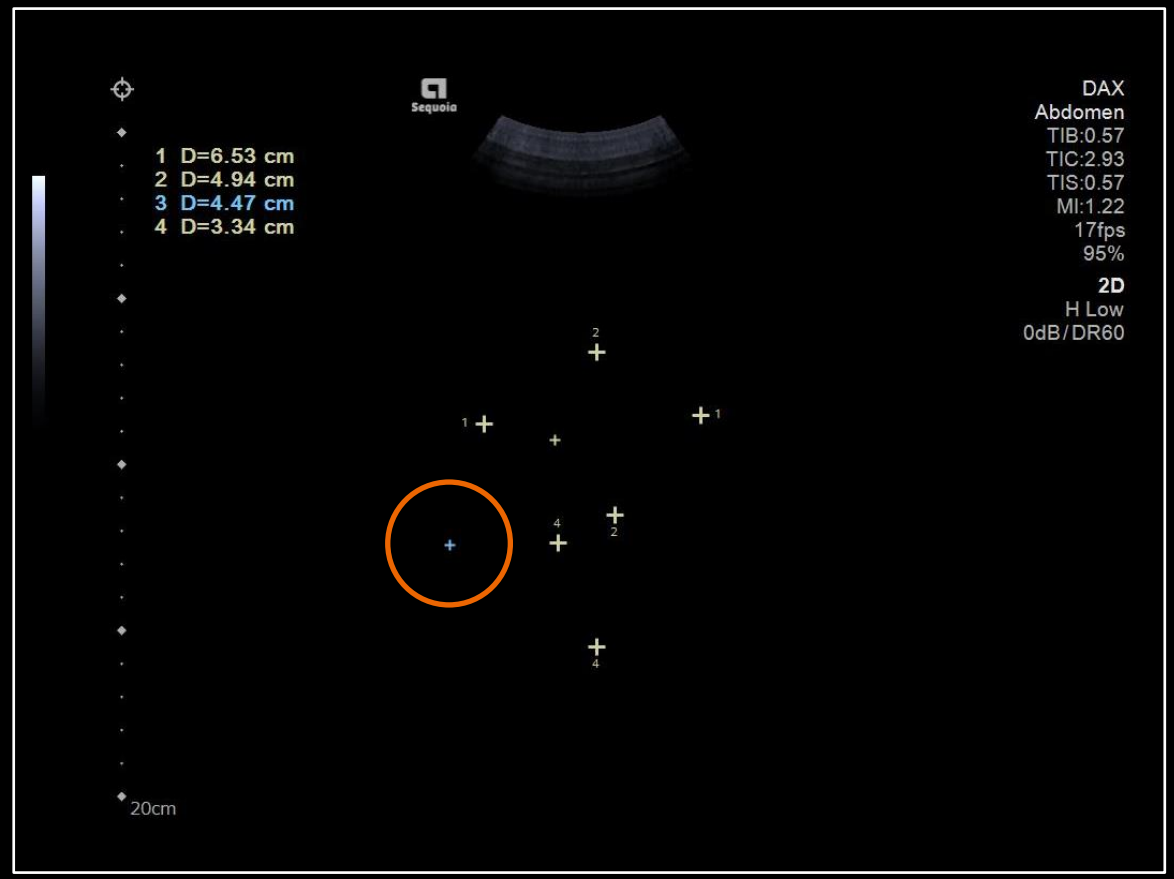
Editing / updating a completed measurement

- Press the **Last Caliper** soft key to activate caliper set

- Use the **Update** key to toggle and the **Set** to lock caliper



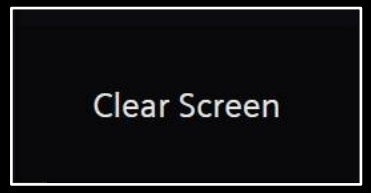


Deleting a caliper

With the measurement function active:

- select the **Delete** key on the control panel for single measurement deletion

- Select **Clear Screen** to delete all measurements



Objectives

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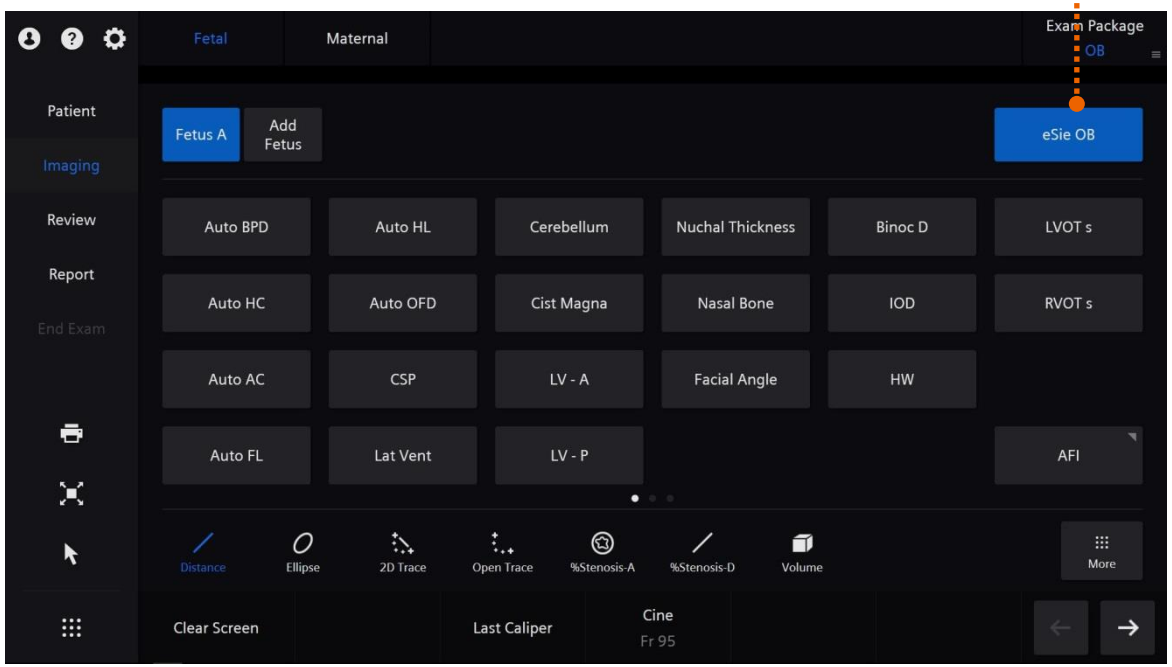
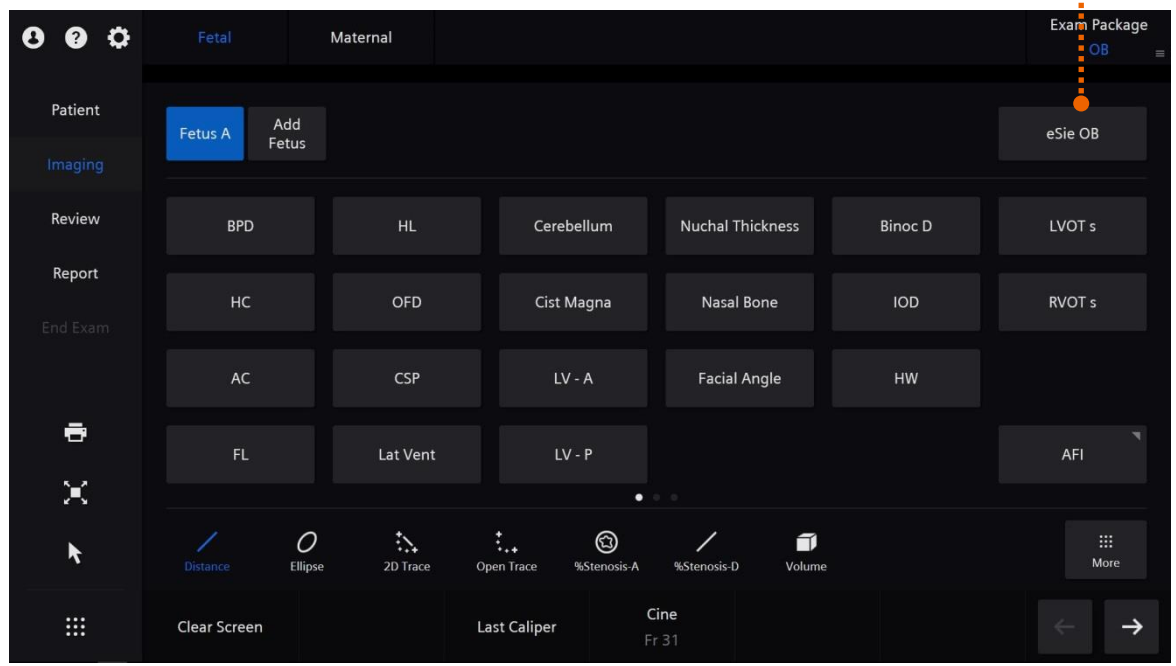
eSie OB on / off

eSie OB key is blue when ON



eSie OB key is grey when OFF

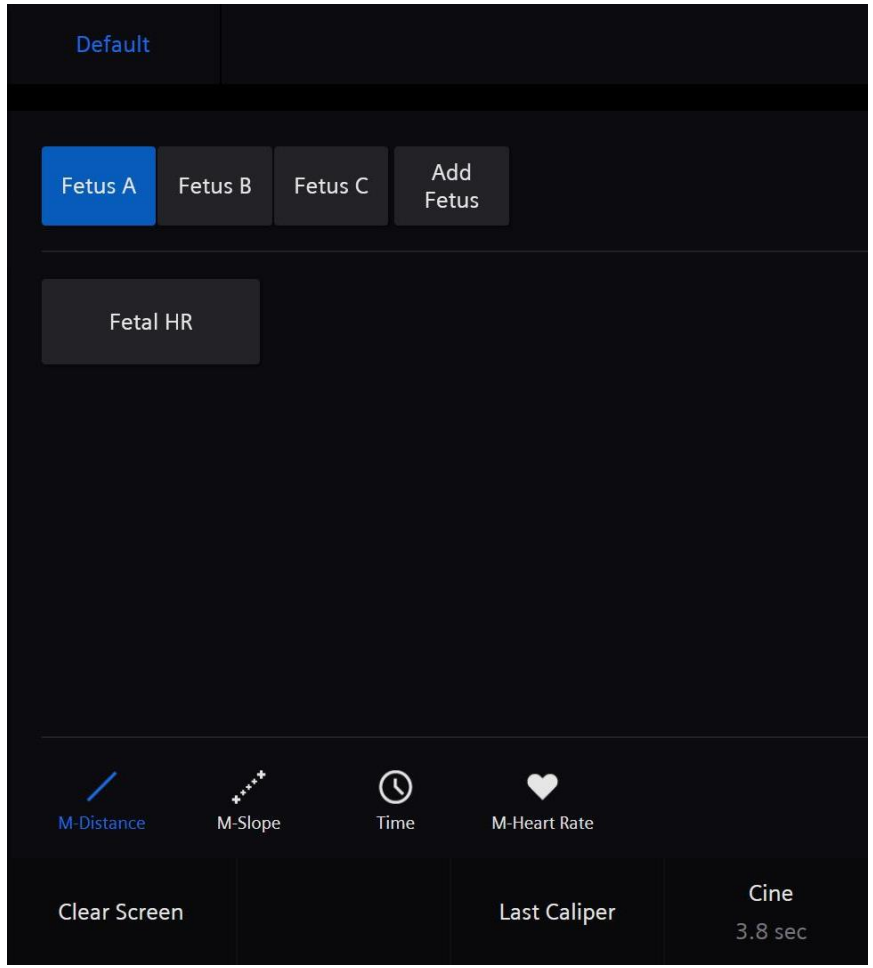


Fetal heart rate measurement

With the M-mode sweep completed:

- Activate the caliper function
- Default on touch screen is to Fetus A - manually select alternate fetus if multiple
- Select Fetal HR on touch screen and measure the appropriate beat(s)

- Number of beats for measurement is displayed in lower left corner of image screen
- Number of beats is specified in system configuration



Hip measurements

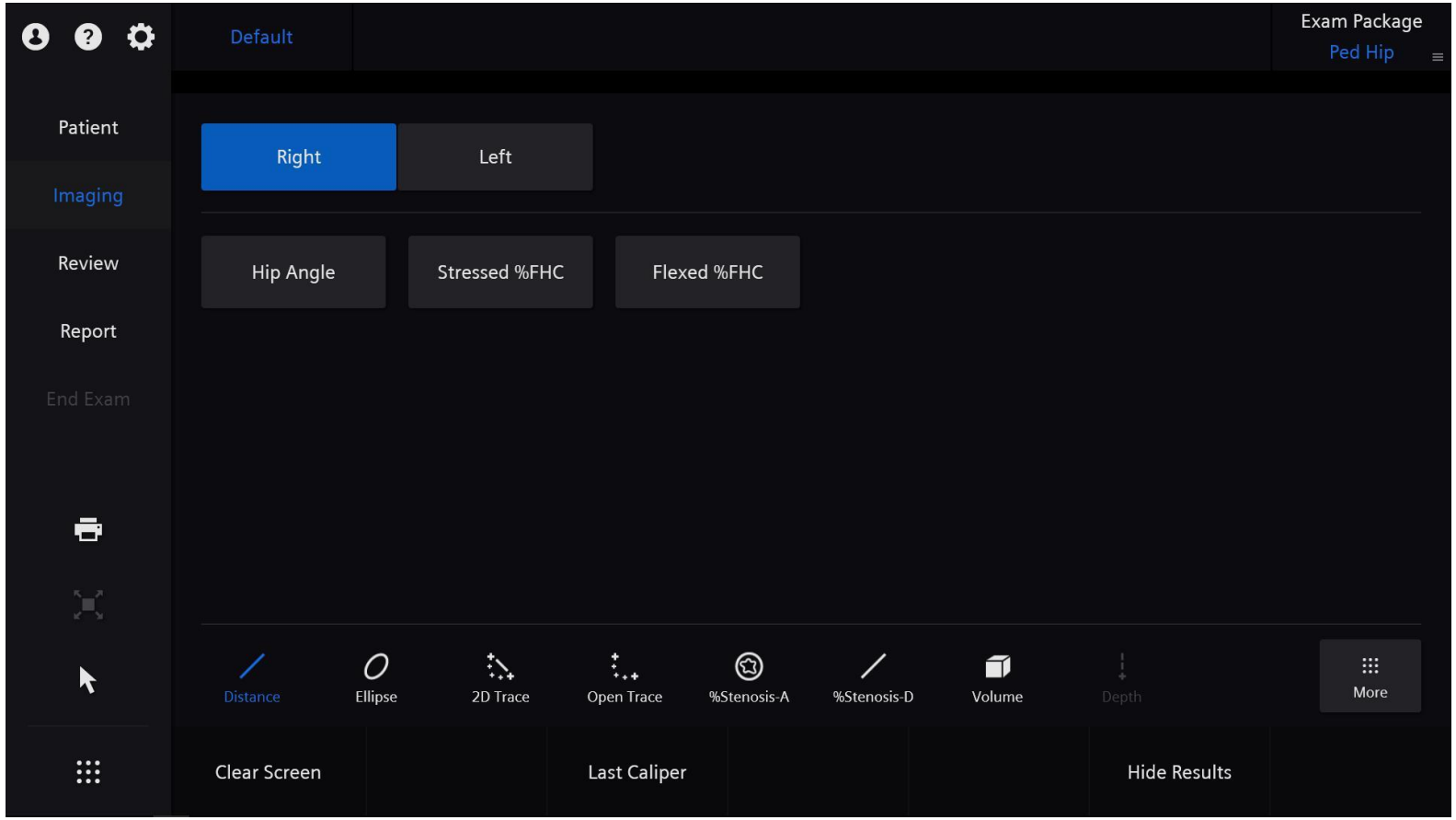
Available labels:

- Hip Angle
- Femoral head coverage (stressed and flexed)

Onscreen tool and method* options:

- Beta and Alpha
- Alpha only

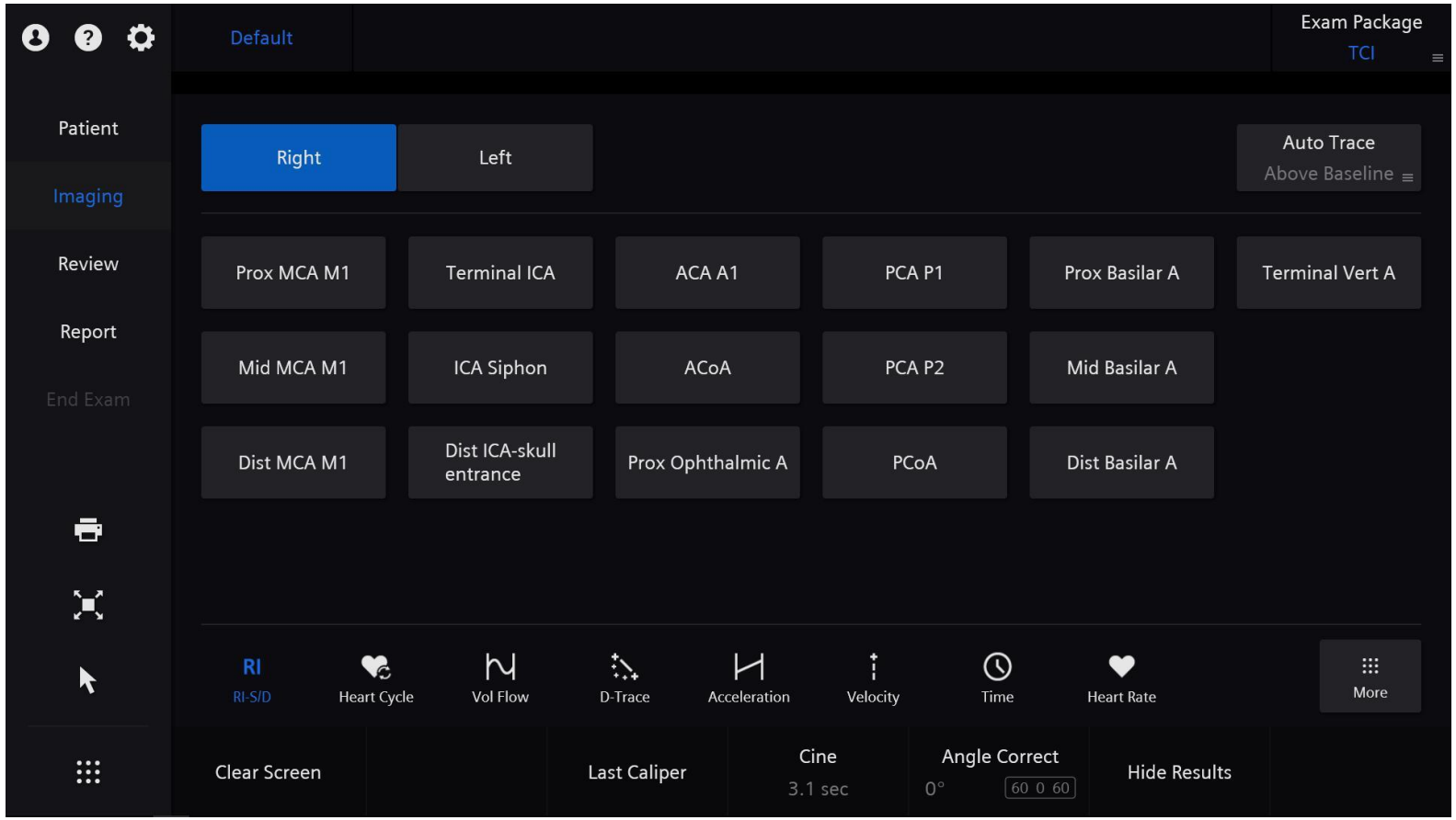
Configuration: M & R > Measurement > Per Label Configuration > Ped Hip



*Options only for Hip Angle. MDA will only display the configured tool(s)

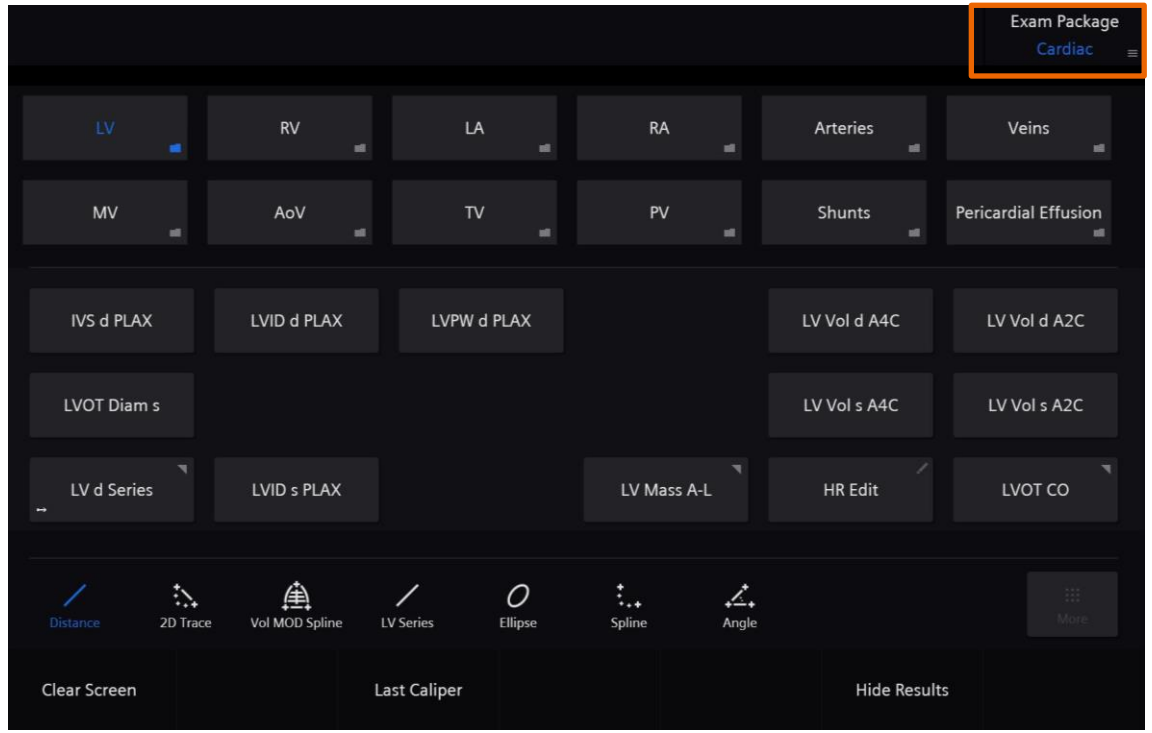
Transcranial Imaging (TCI)

- Factory measurement labels displayed in Doppler mode
- Display is configurable in the Touch Screen Layout Editor
- Auto Trace available



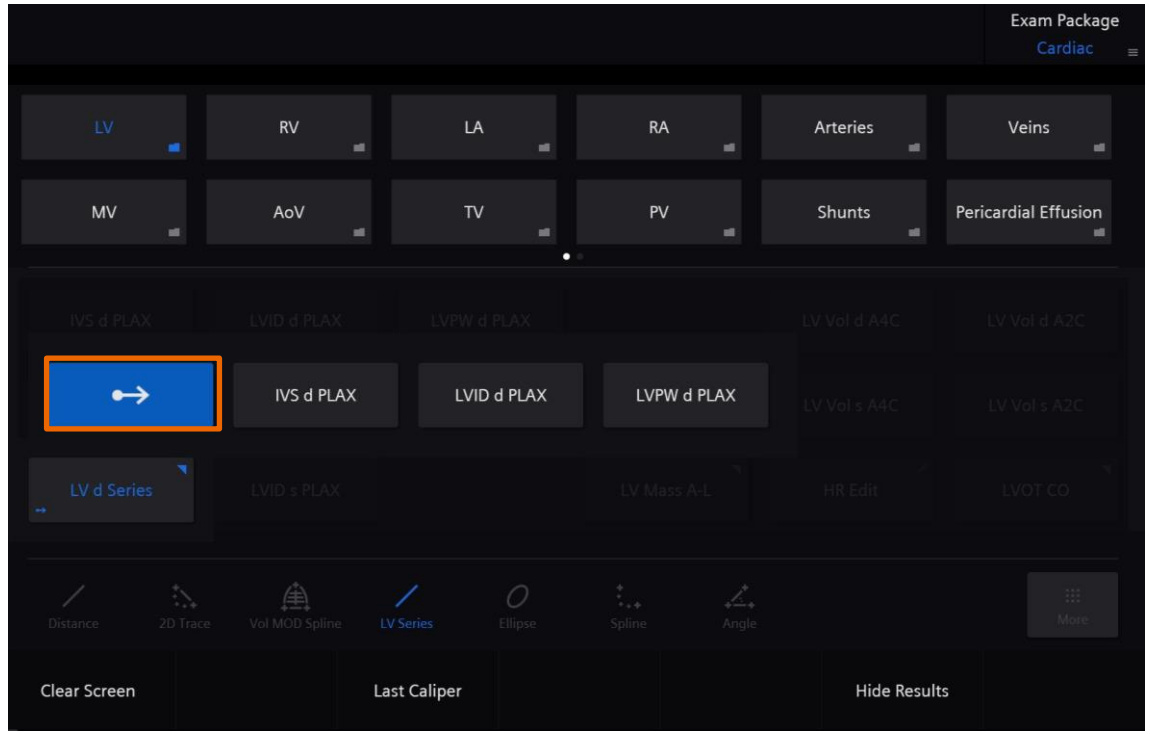
Cardiac 2D measurement options
Touch screen

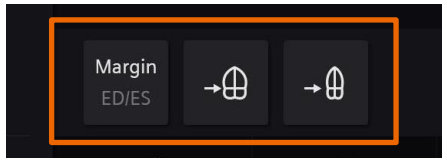
- There are two exams: Adult Cardiac and Fetal Cardiac Exam Packages
- Measurements are grouped into folders based on anatomy
- The folders are configurable in both content and layout
- Unlabeled / generic measurement options appear at the bottom of the screen



Cardiac 2D measurement options
Series measurements

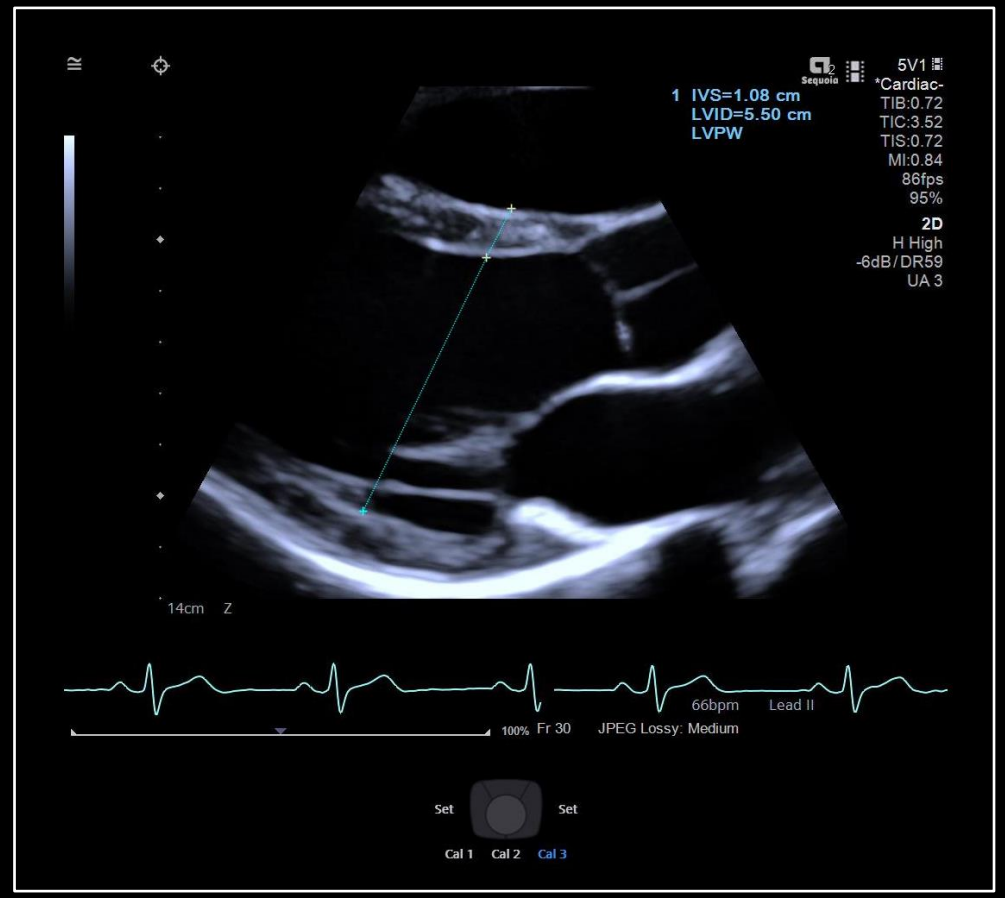
- Measurement series are indicated by an arrow on the touch screen
- Select arrow to utilize the measurement series or select each measurement individually
- A check mark (✓) will appear on the label once the measurement is completed / set
- **Go To ED** and **Go To ES** are available options on the soft key menu





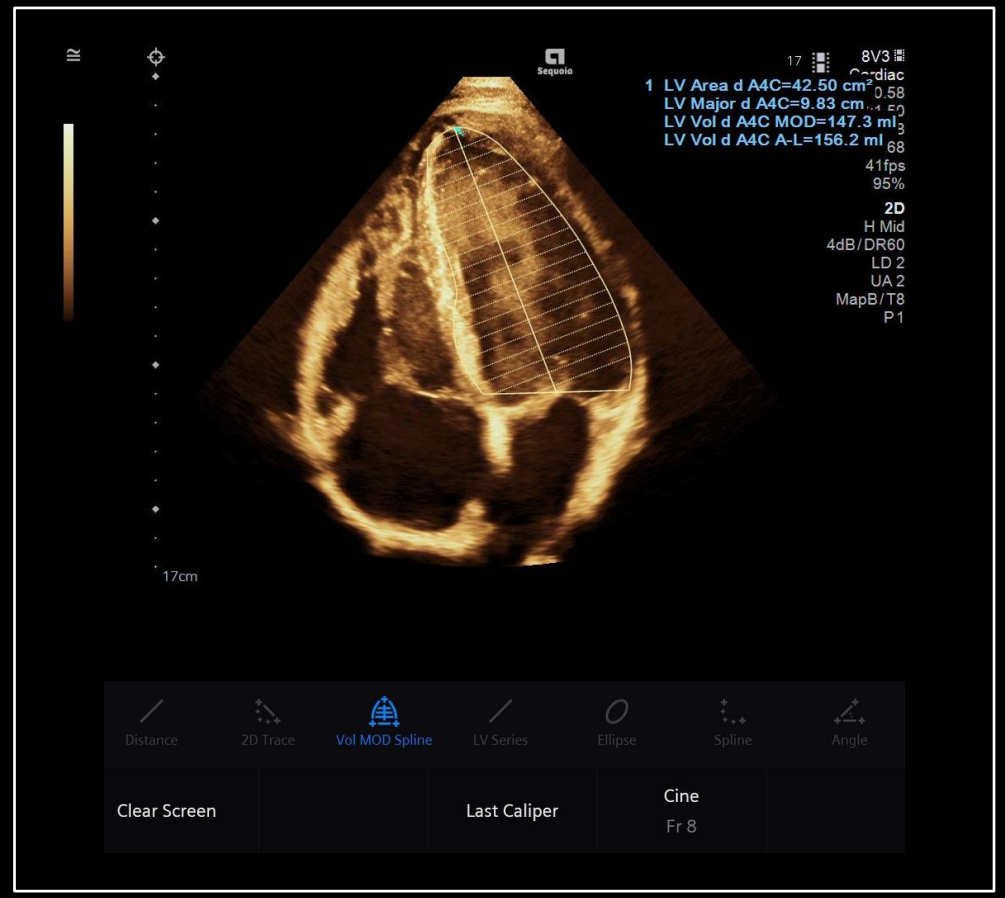
Cardiac 2D measurement options
Series measurements

- In this **LV Series** example, once a measurement within a series is completed, the next measurement is automatically activated
- Press **Toggle Caliper (Update)** to toggle between the calipers to edit position and alignment
- To edit set calipers, select **Last Caliper** from soft key menu, then press **Toggle Caliper** to toggle and edit markers



Cardiac 2D measurement options
3 point method of discs

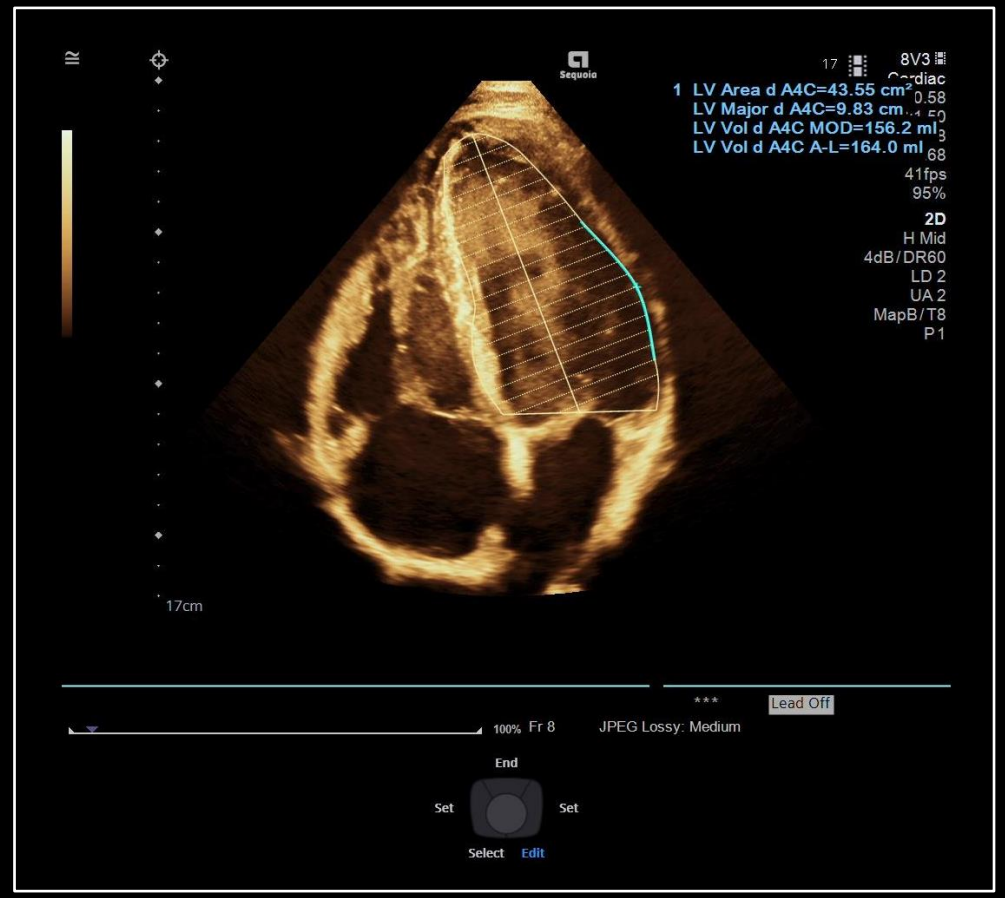
- **3 point trace** – LV & LA volume measurement method located in respective folders
- To use, select the volume measurement label, then place medial and lateral points
- Use the trackball to position third point and press the **Set** key
- Press **End** to complete trace



Cardiac 2D measurement options
Edit 3 point method of discs

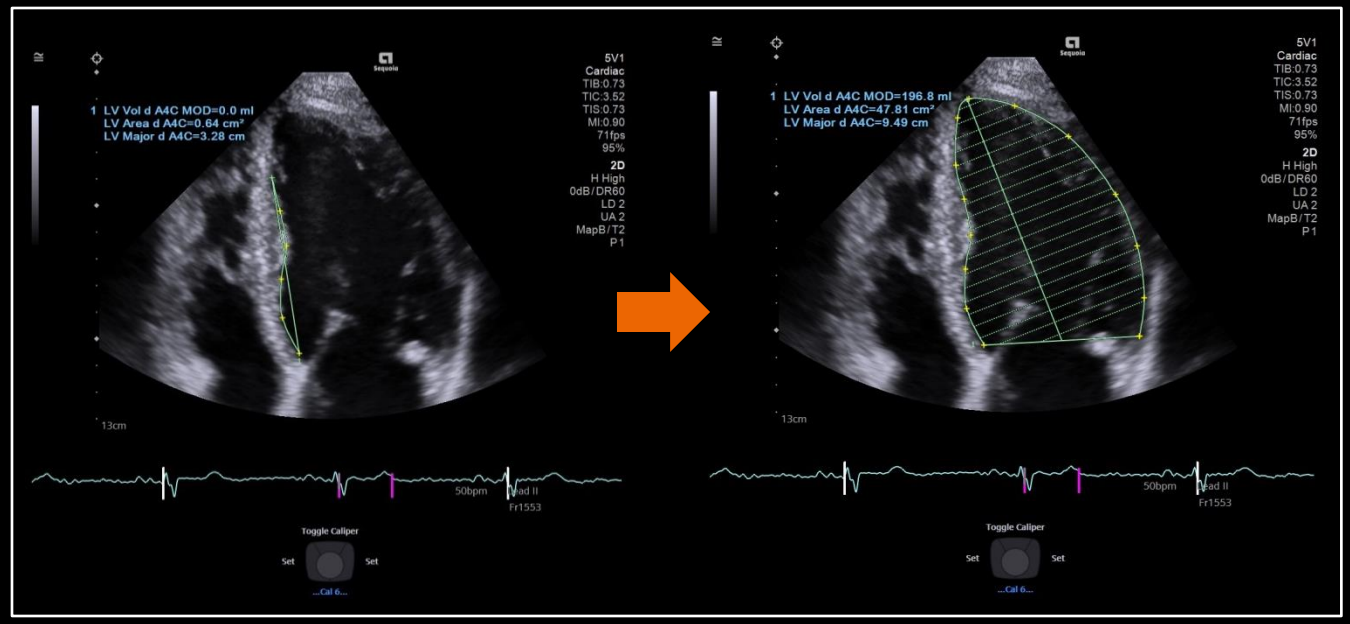
- Before the trace is set, move **Pointer** close to the trace to select a small section, click and drag to adjust, or move **Pointer** farther from the trace to adjust a bigger section

- To edit a set trace, select **Last Caliper** from the soft key menu to activate trace editing, and follow steps above



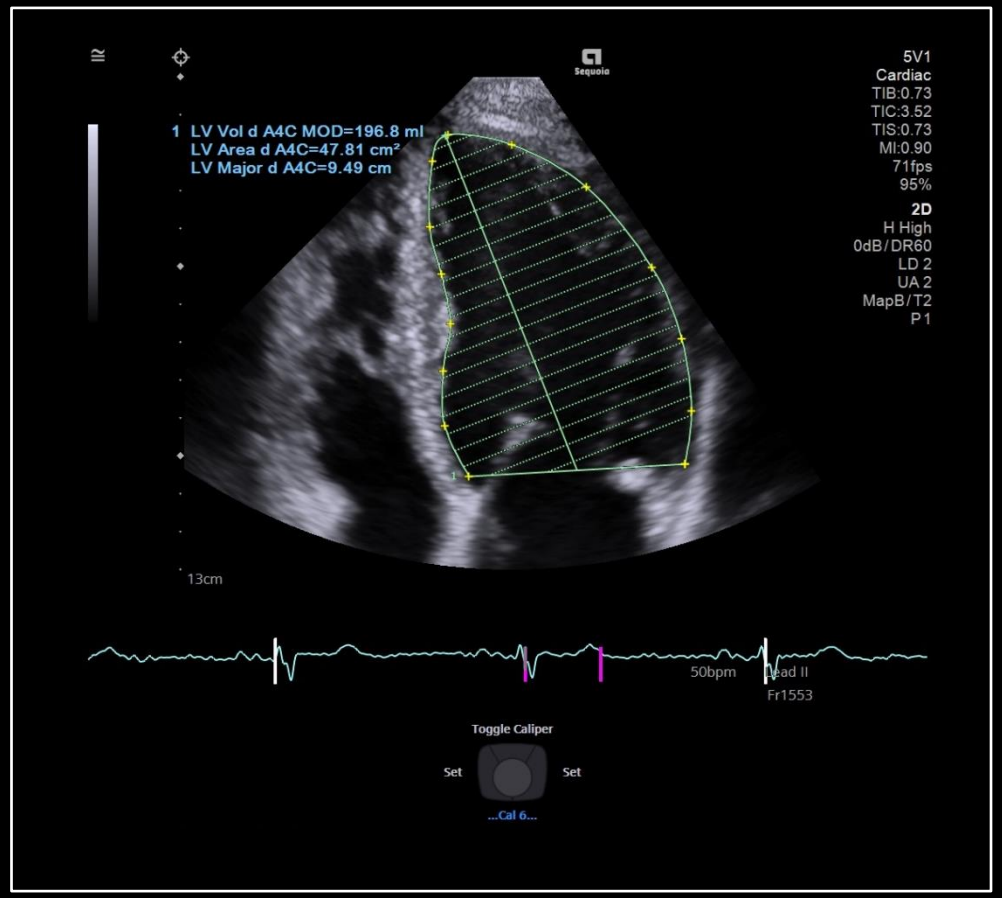
Cardiac 2D measurement options
Trace

- The spline method is the configured tool for the trace measurement option
- Press a **Set** key to activate next caliper
- Double click a **Set** key to complete the trace
- Press **Set** once more to finalize the measurement and add it to the report



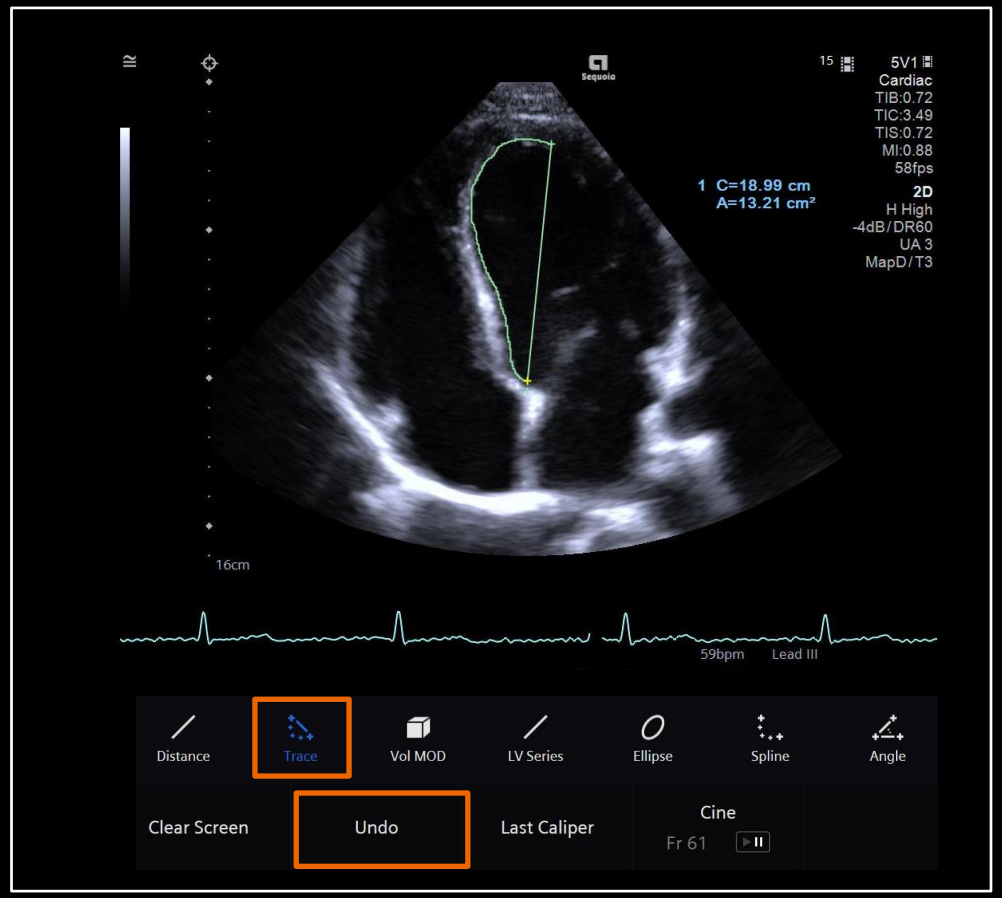
Cardiac 2D measurement options
Edit trace

- To edit a trace, select **Last Caliper** from soft key menu and press **Toggle Caliper** key (**Update**) above trackball
- Use the trackball to move the caliper points and alter the LV contours
- The active caliper will appear green



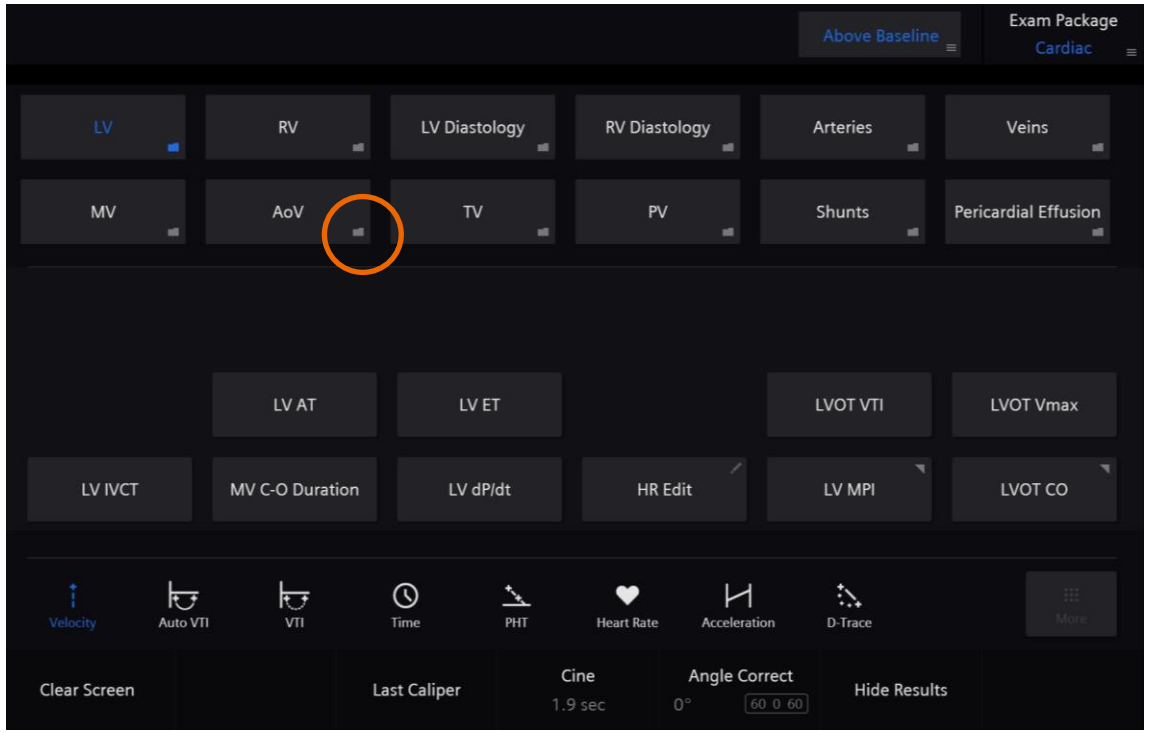
Cardiac 2D measurement options
Unlabeled (generic) trace

- The traditional trace method is available as a generic caliper measurement
- Select **Undo** or back up erase using the trackball to edit the trace
- A generic measurement will not populate into the patient report



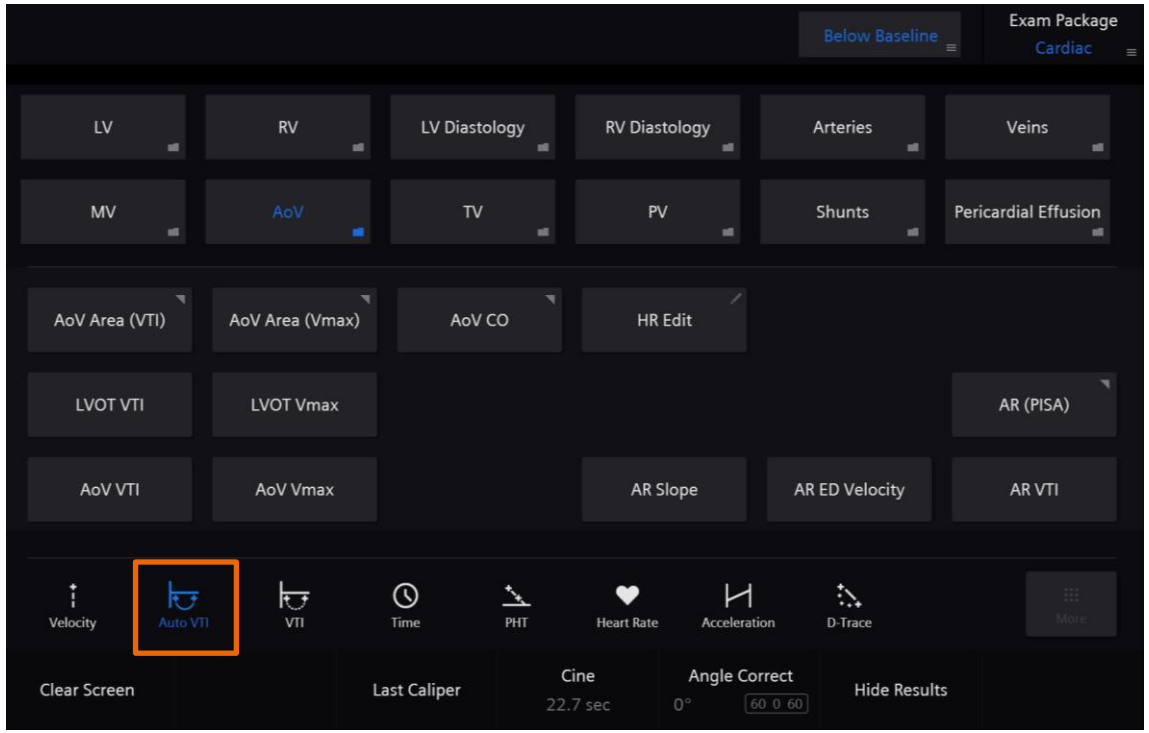
Cardiac Doppler measurements
Touch screen

- Doppler measurement options are organized into folders in the same manner as the 2D measurements
- Folders are configurable in both content and layout



Cardiac Doppler measurements
Auto VTI

- Semi-automated tracing method for spectral Doppler
- Available during live imaging
- Can be configured to be associated with a specific VTI measurement label (i.e. LVOT VTI)
- Measurements associated with a measurement label will be entered into the Report

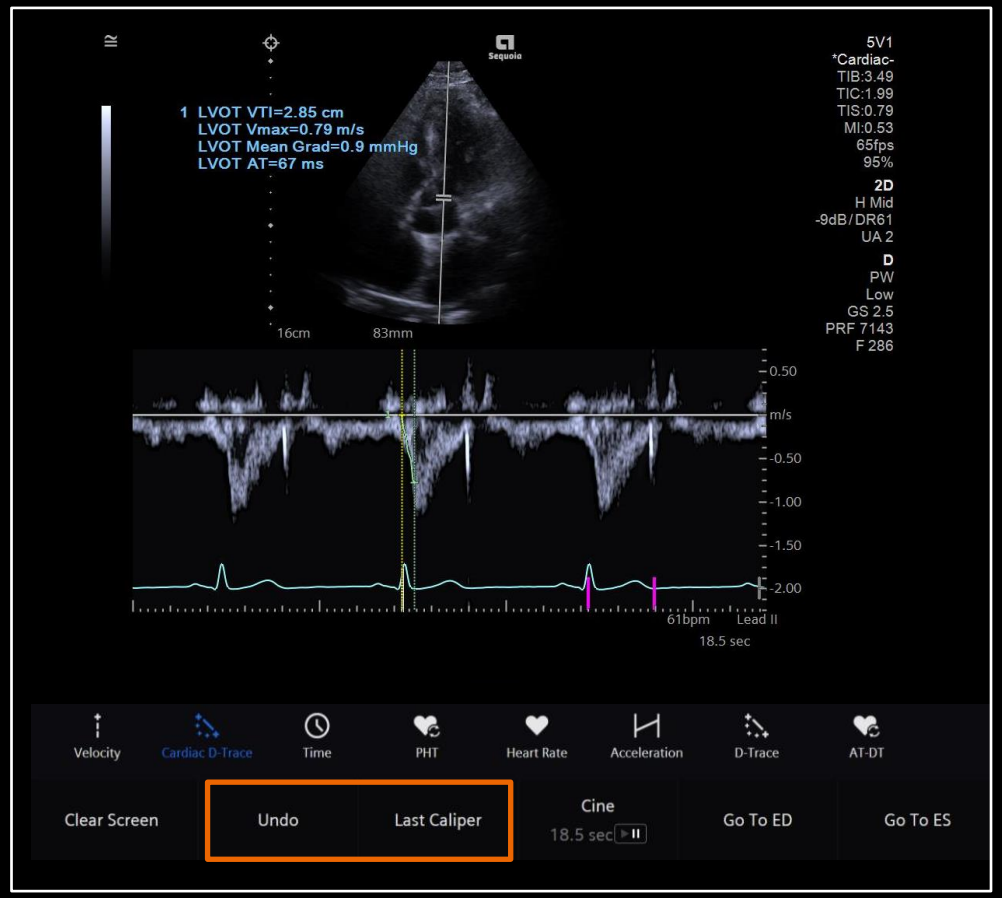


Cardiac Doppler measurements
Auto VTI

- Select **Auto VTI**
- Specify trace as Above Baseline, **Below Baseline**, or **Above and Below Baseline**
- Press **Set** key to place first caliper at the beginning of the spectral Doppler tracing, and place second caliper at the end of the spectral Doppler

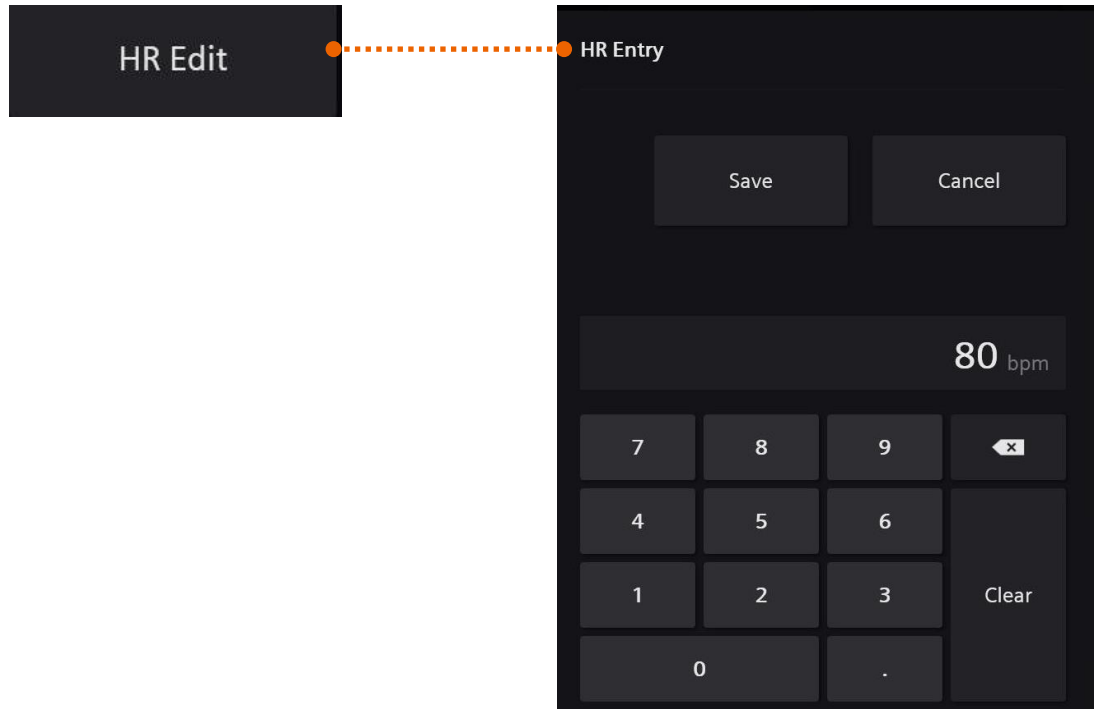
Cardiac Doppler measurements
Trace

- The traditional trace method is available for spectral Doppler measurements
- Select **Undo** or back up erase using the trackball to edit the trace
- Once the measurement is set, select **Last Caliper** to edit



Edit heart rate (HR) for cardiac exams

- **HR Edit** allows manual entry of a heart rate
- For use in cases where an ECG is unavailable
- Select **HR Edit** and enter the heart rate using the touch screen number keys
- Select **Save**



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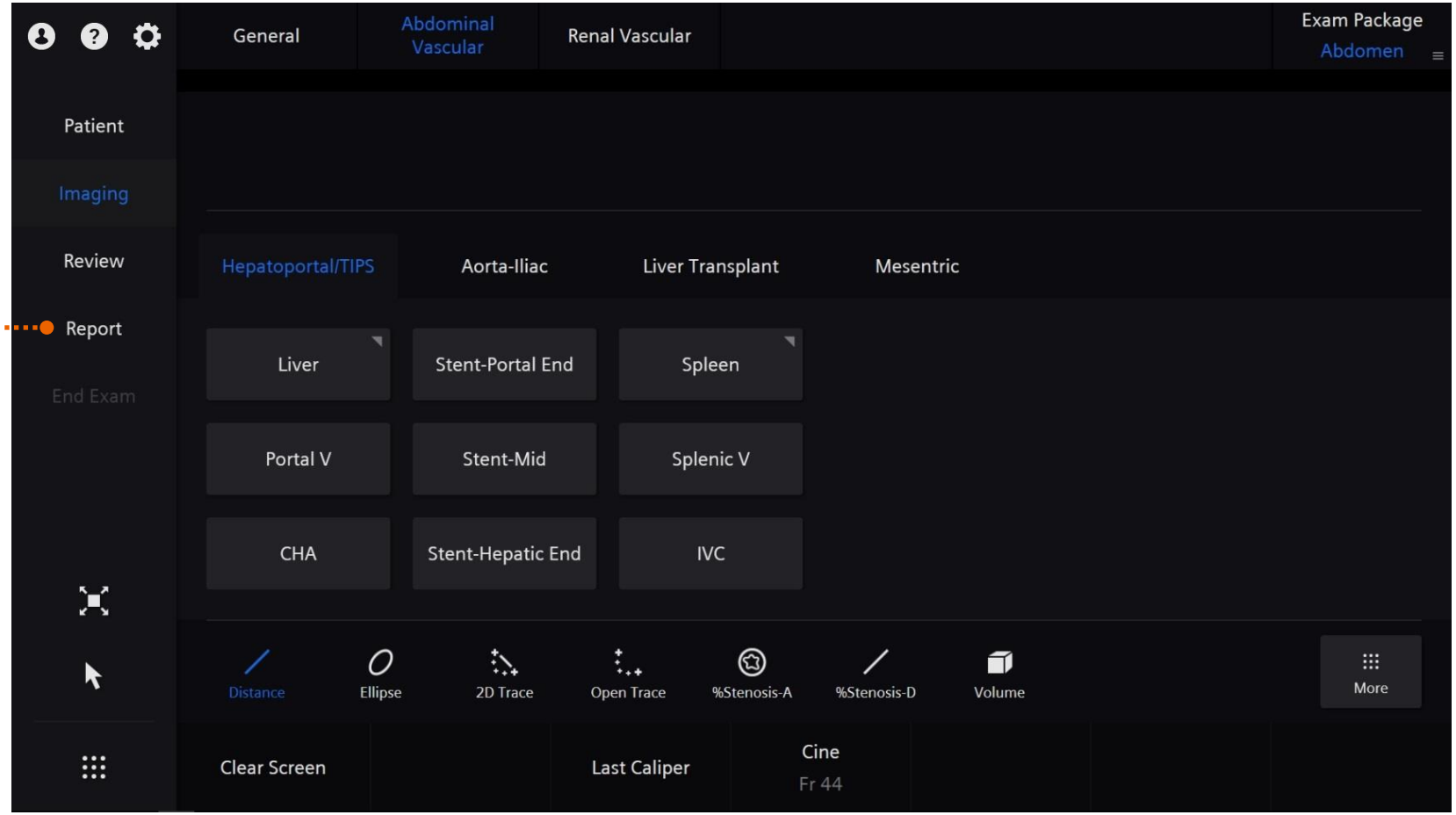
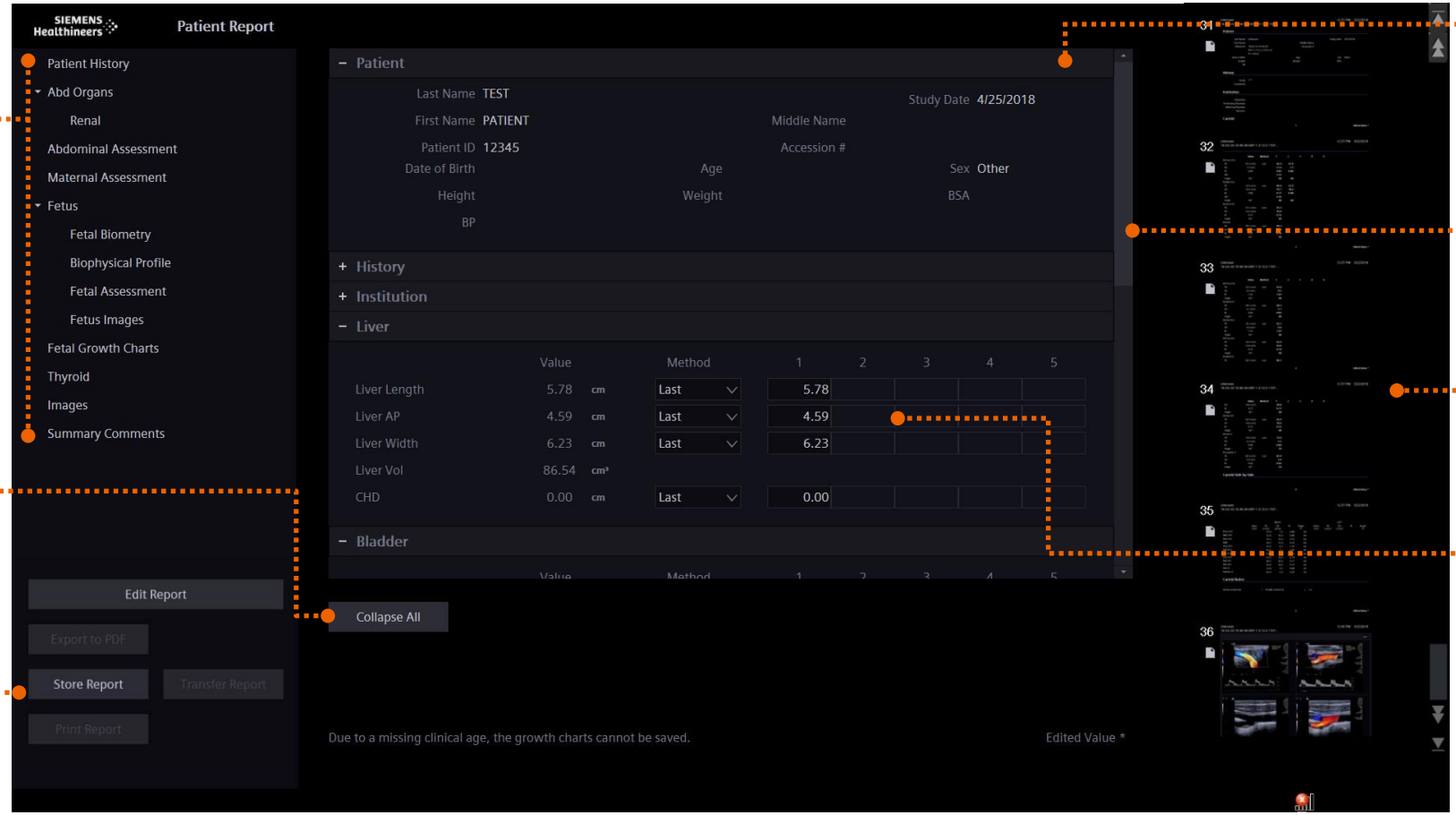
Report access

Report access from touch screen

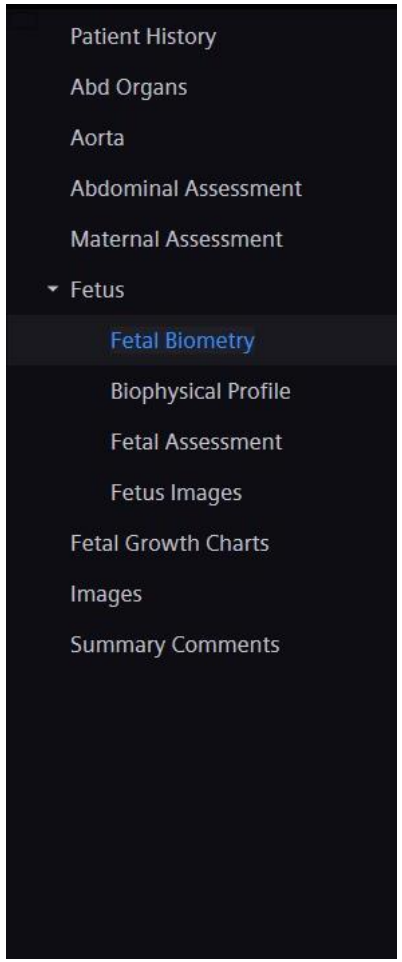


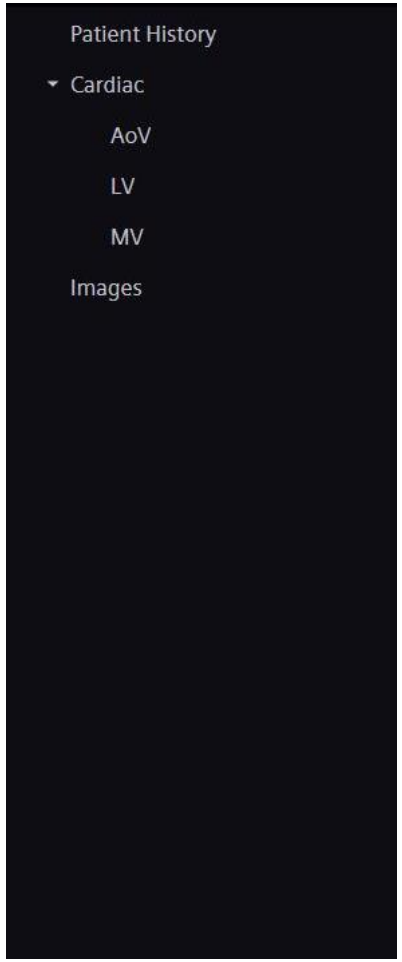
Report layout

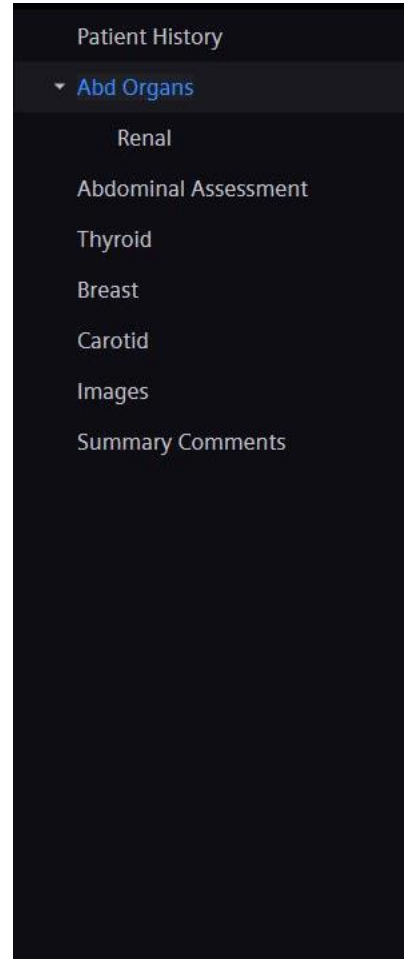


Navigation pane

- Navigation pane contains links to different report sections
- Sections are organized by anatomy
- An open / active section heading is highlighted in blue
- All reports / sections that have data are listed
- Any sections that have been “hidden” in system configuration will **not** be listed even if measurement data has been obtained

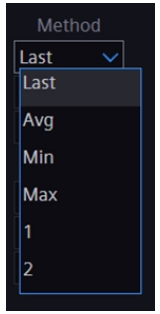




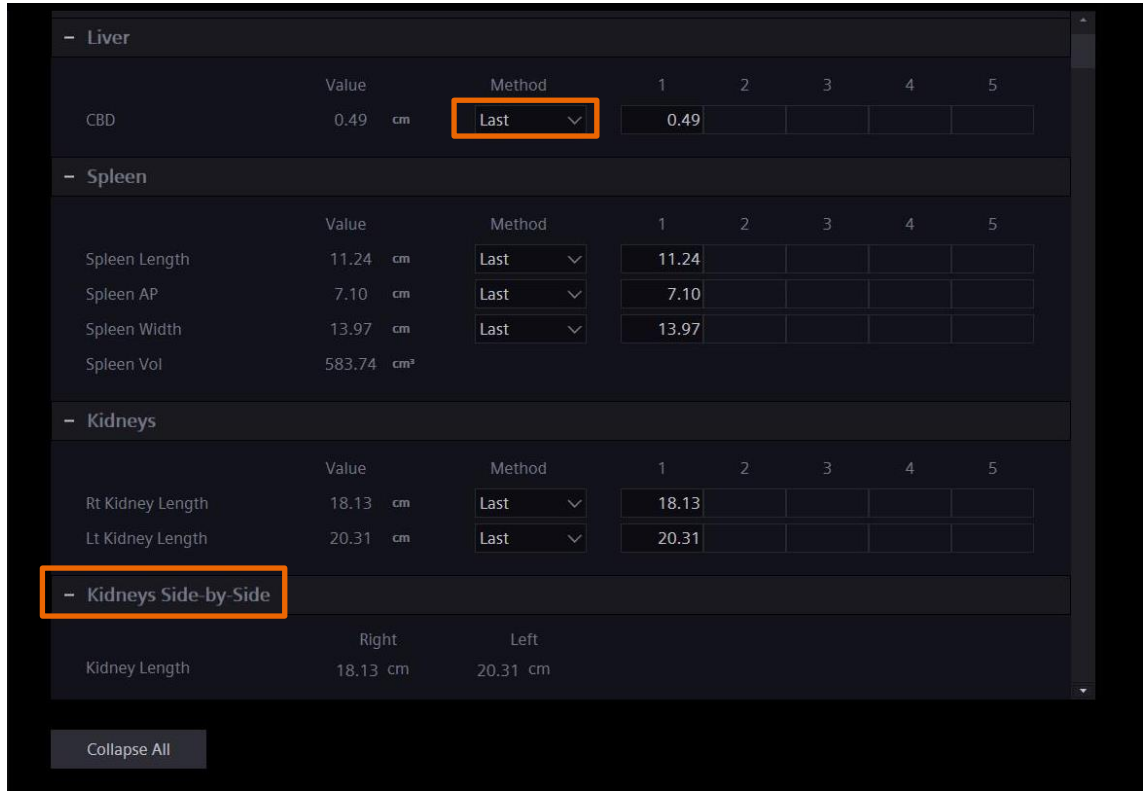


Report content structure

- Sections can be individually collapsed by selecting the “+” or “-” for that section
- Maximum of 5 labeled measurements will be displayed
- Display method options are determined by tool type and can be manually altered for all exams



- “Side-by-side” options available for anatomy with left / right options



Function keys

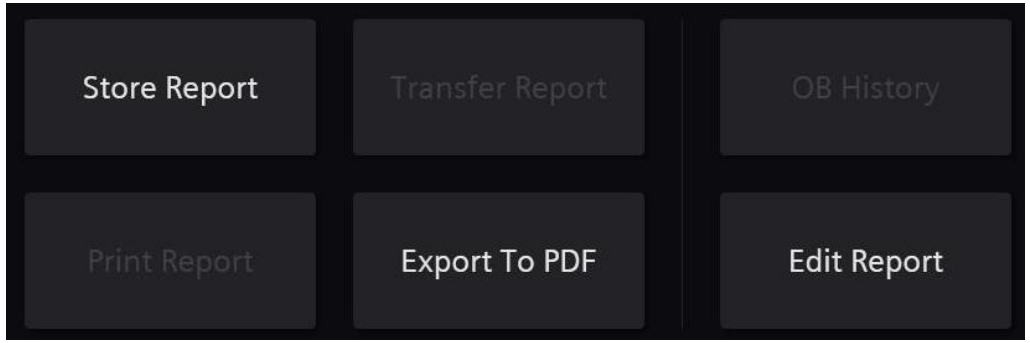
There are six function keys relating to the report

Keys are displayed on the touch screen and imaging screen

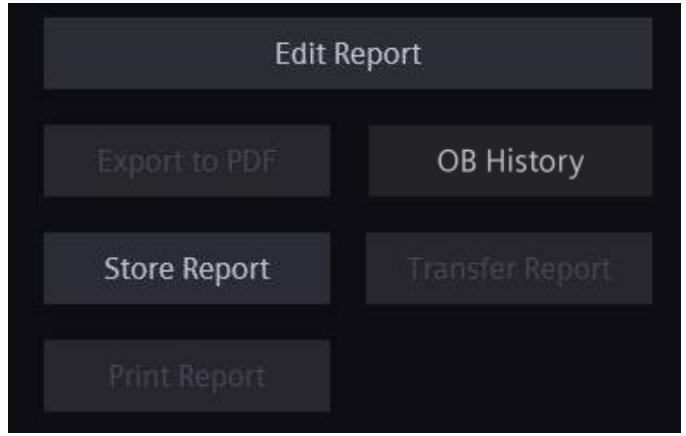
They are:

- Store Report
- Print Report
- Transfer Report
- Export to PDF
- OB History
- Edit Report

Touch screen display



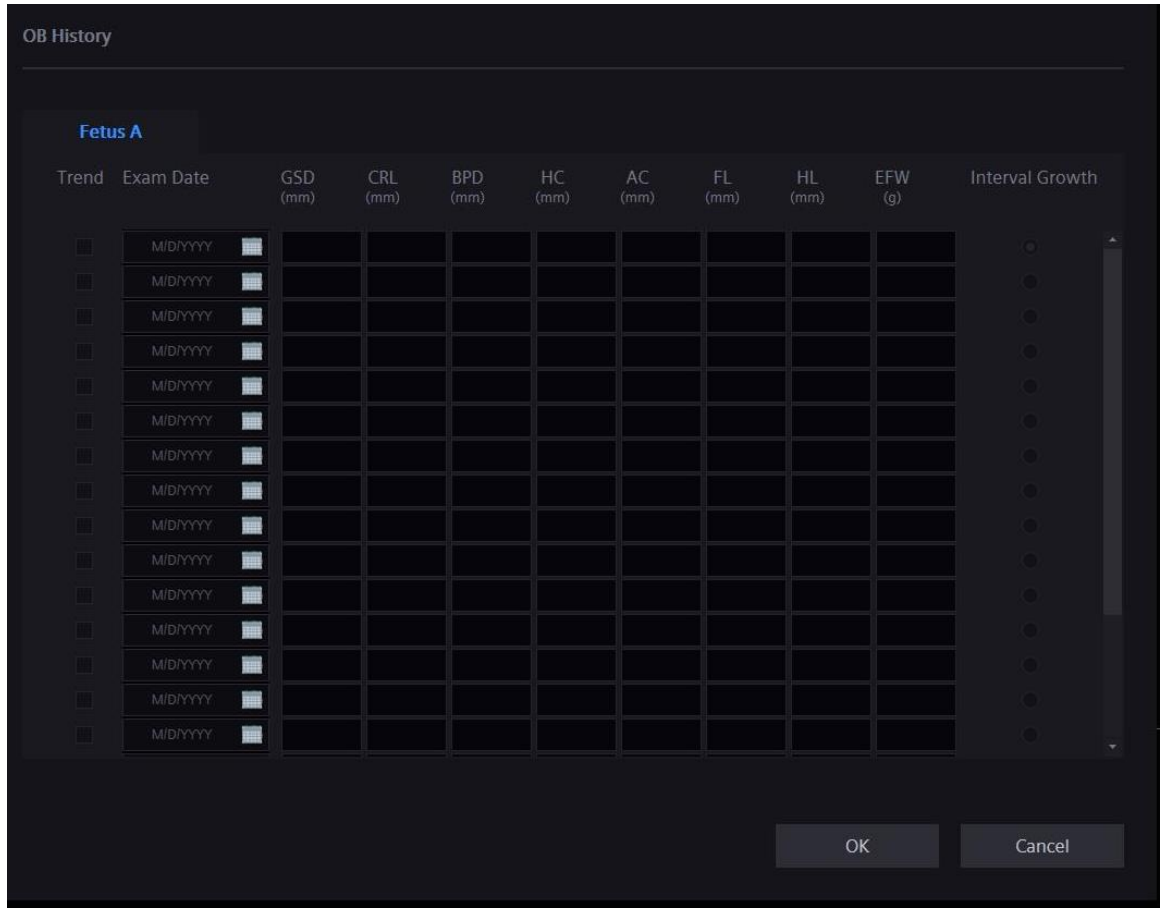
Imaging screen display



OB History

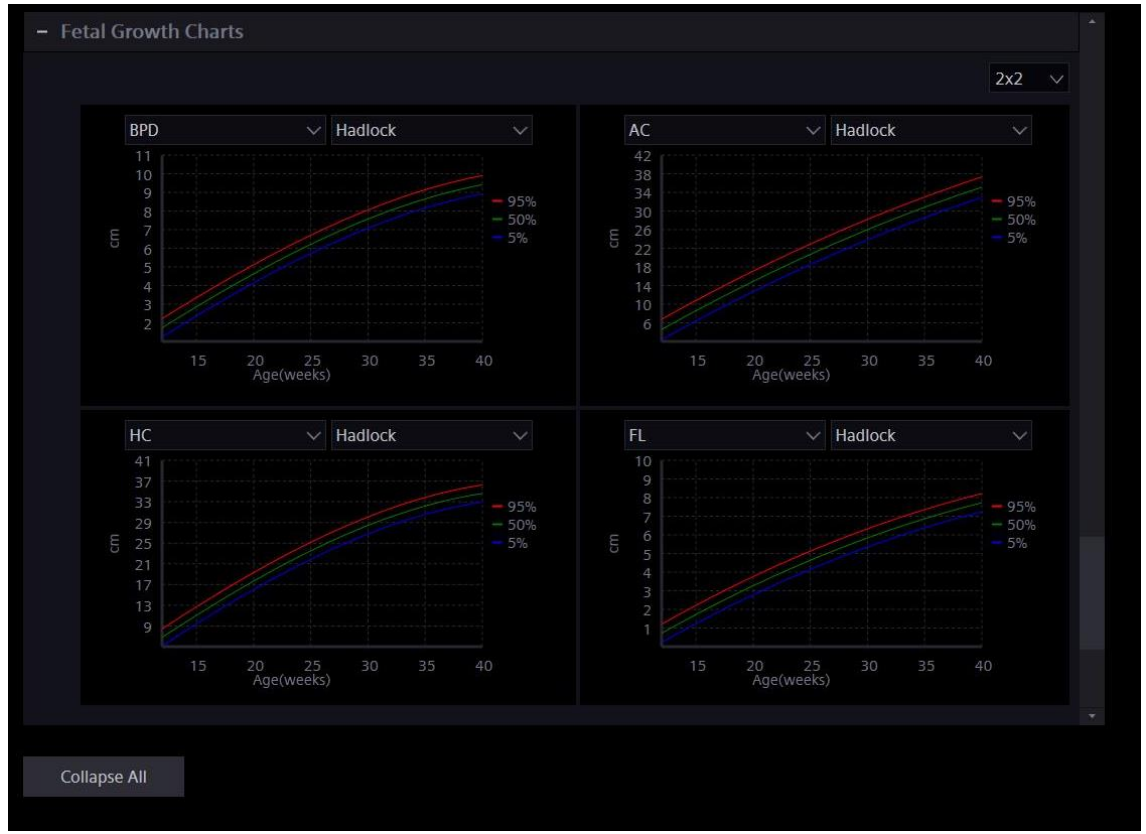
- Obstetric history can be manually added to the report to compare growth parameters
- Use the **Pointer** to select the date the previous exam was performed on
- Enter data in the fields provided and select **OK** to add

Note: if the previous exam was performed on the same system, the data will be populated in the OB History



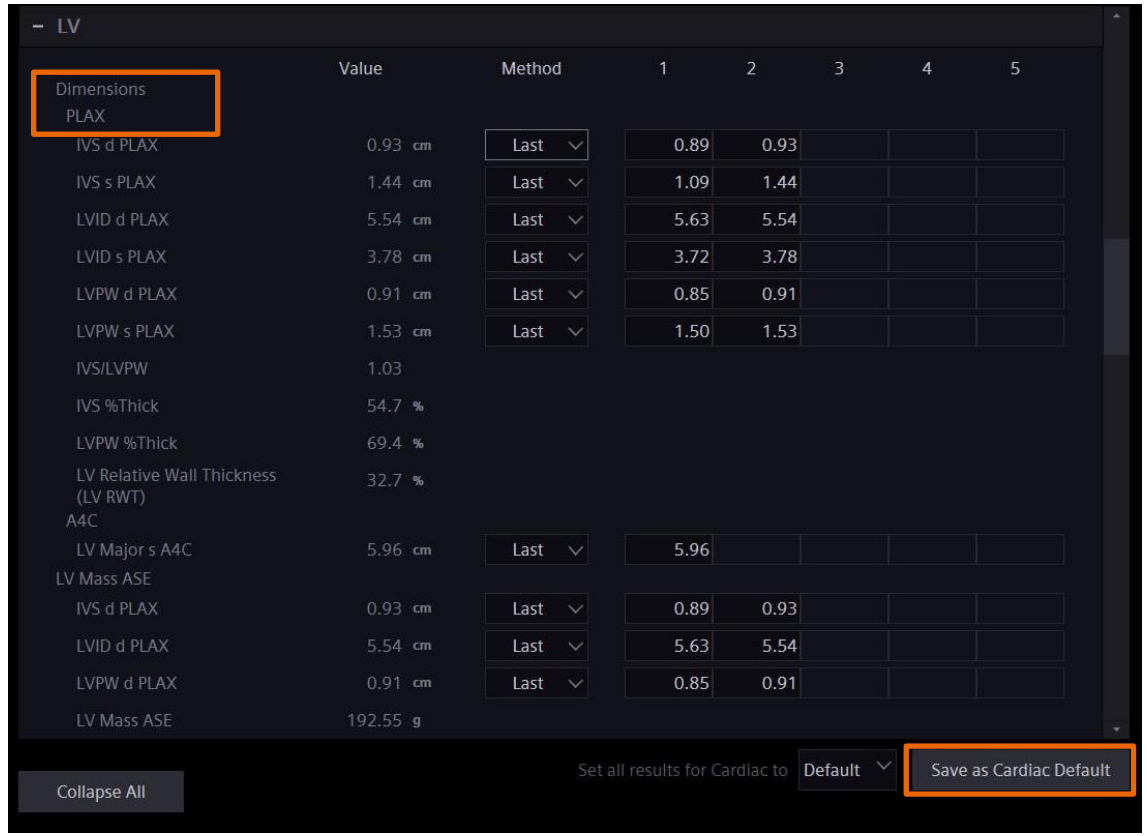
Fetal growth charts

- Fetal growth charts can be displayed in the report
- User can change the measured parameter and chart author using the drop-down menus located on each chart
- Options for chart layout are found in the drop-down menu in the right upper corner – this is a 2 x 2 layout
- To collapse / hide charts click on the minus sign (-) in the section heading



Cardiac report

- Cardiac reports are displayed in sections that contain headings and sub-headings to divide the results
- Display method options can be changed for individual measurements from those listed in the drop-down menu
- If changes are made, an additional function key to **Save as Cardiac Default** will store the current settings



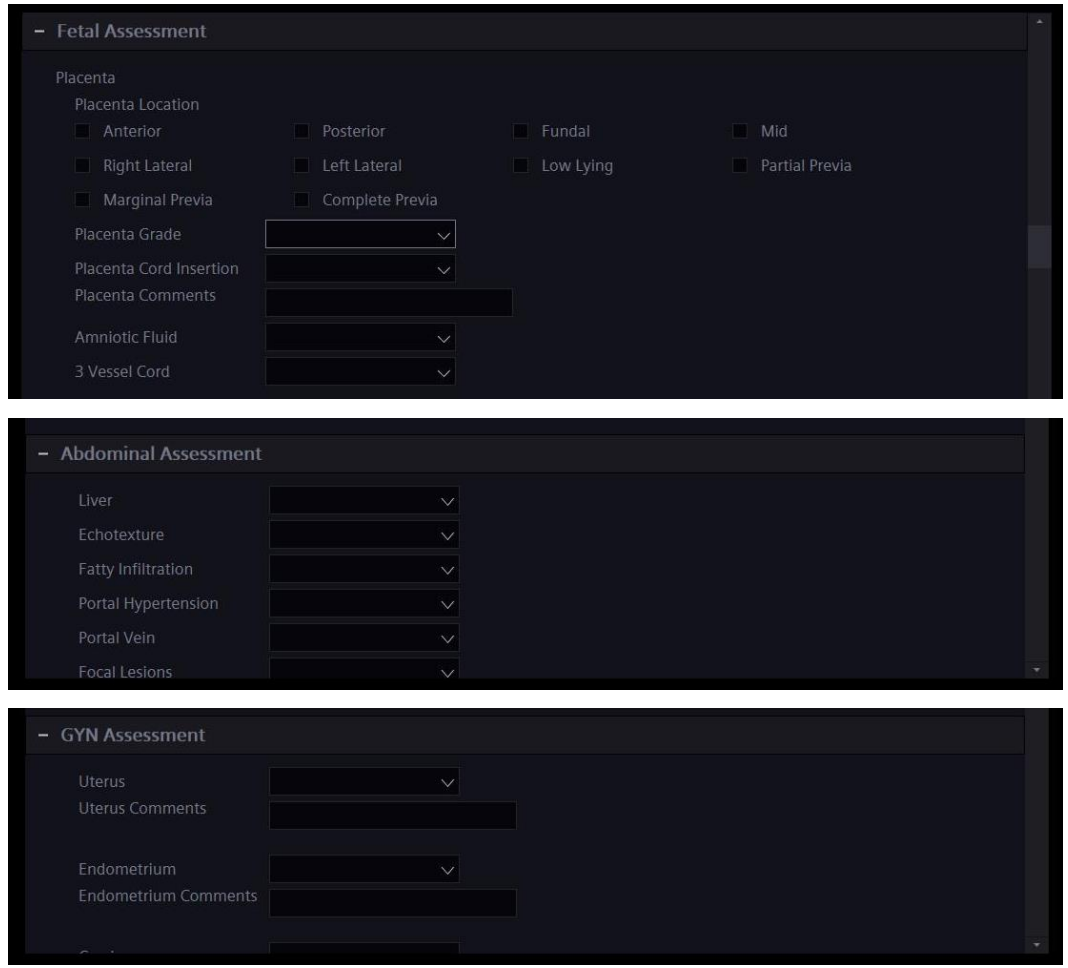
Available assessments

Assessment sections are available for:

- Abdomen
- Gyn
- Early OB - fetal and maternal
- OB - fetal and maternal
- Fetal Echo
- Carotid
- Hip

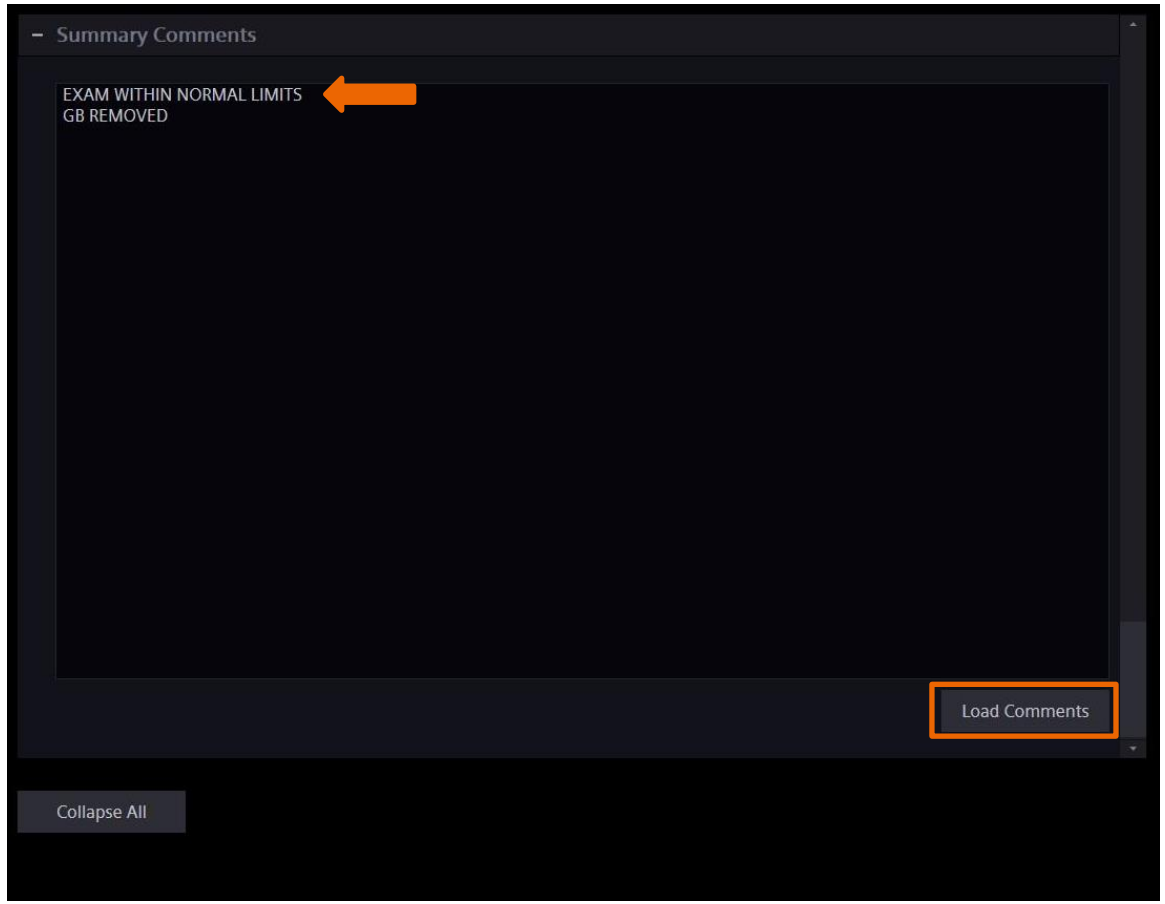
Comment or drop-down menu formats available

Custom assessments can be added in system configuration



Summary comments

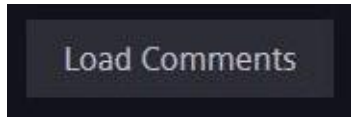
- A section for summary comments is available for each exam type
- Comments can be freeform and added by using the keyboard to enter the specific comment
- If pre-programmed comments are available, select the **Load Comments** key
- Custom comments can be added in system configuration



Summary comments
Add pre-programmed comments

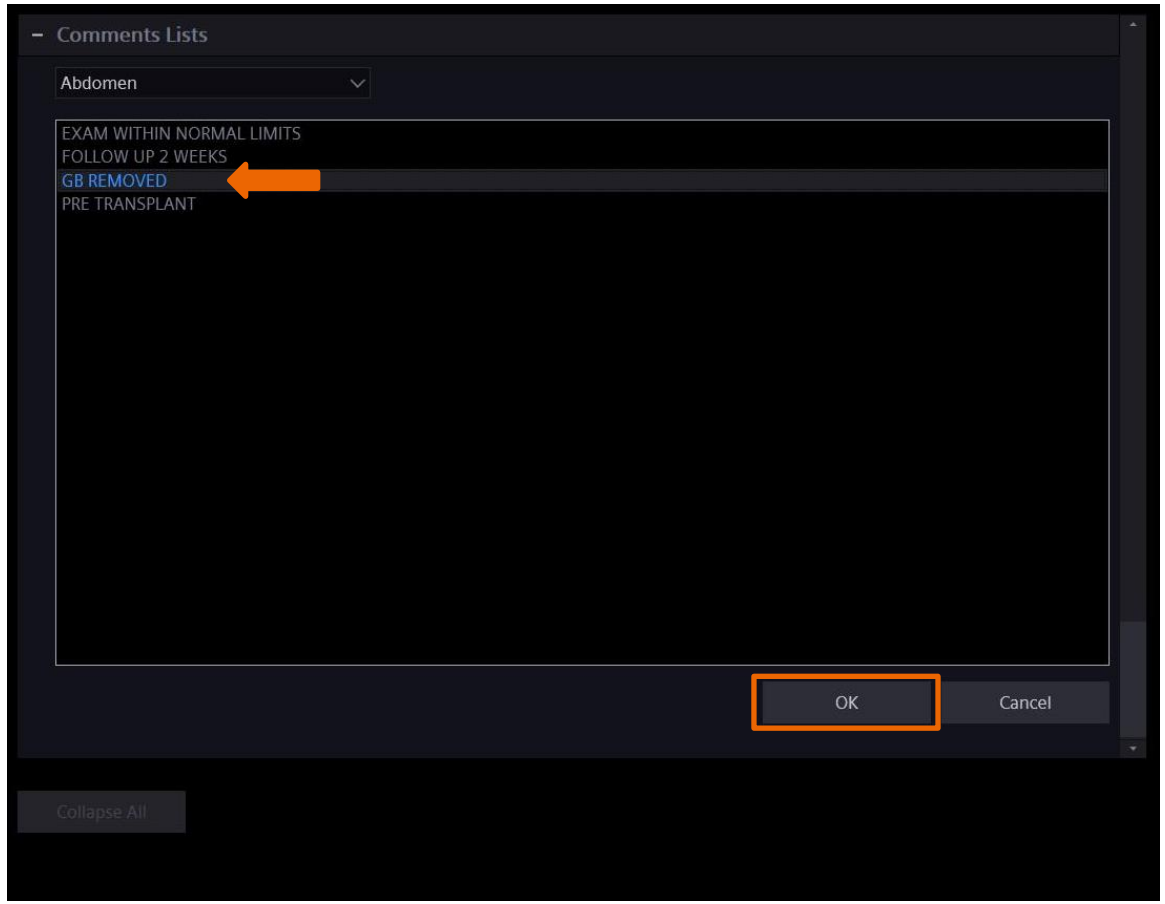
To add comments:

- Select **Load Comments**



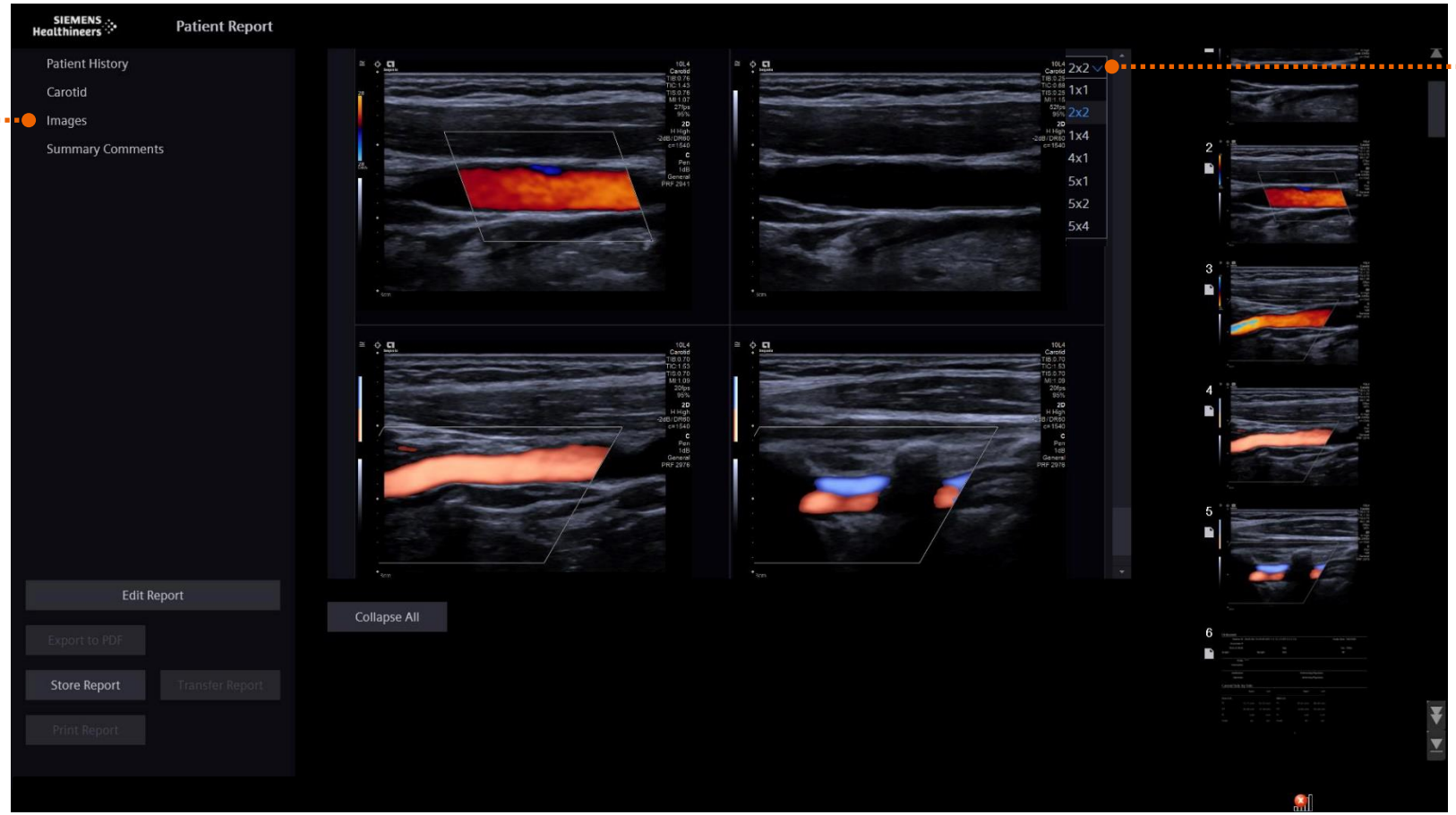
- Use the **Pointer** to highlight the chosen comment
- Select **OK**
- Comment will populate report

Multiple comments can be added to a single report one comment at a time



Add images to report

Quick navigation to images section



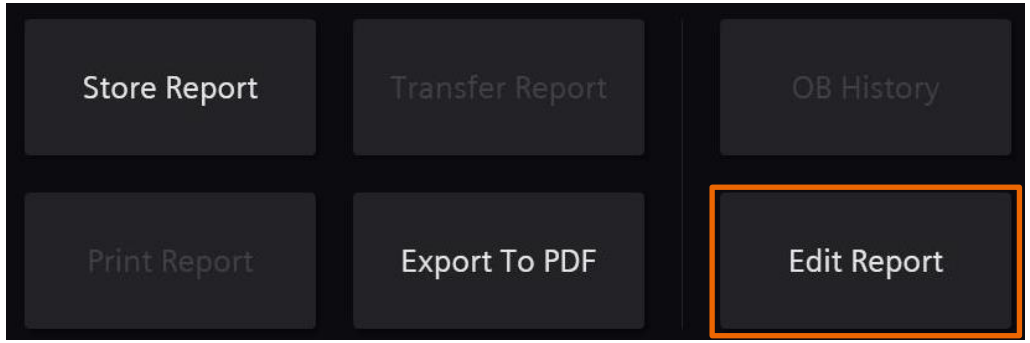
Drop-down for display layout

Edit report

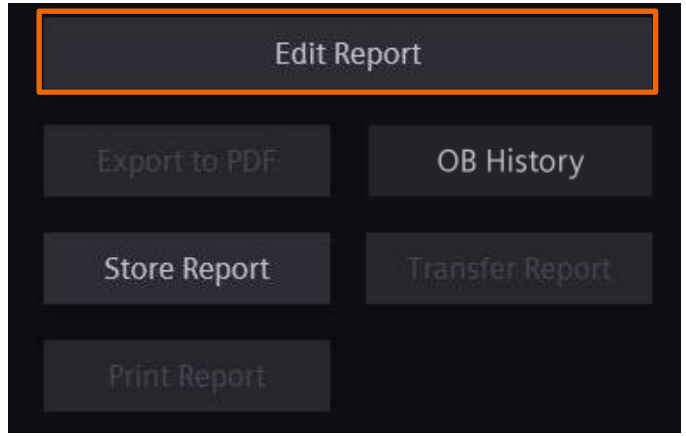
- Report data can be edited
- Function key to activate editing feature is available on both the touch screen and the imaging screen
- Select the **Edit Report** the use the Set key, trackball, and keyboard to input the new values

(continued next slide)

Touch screen display



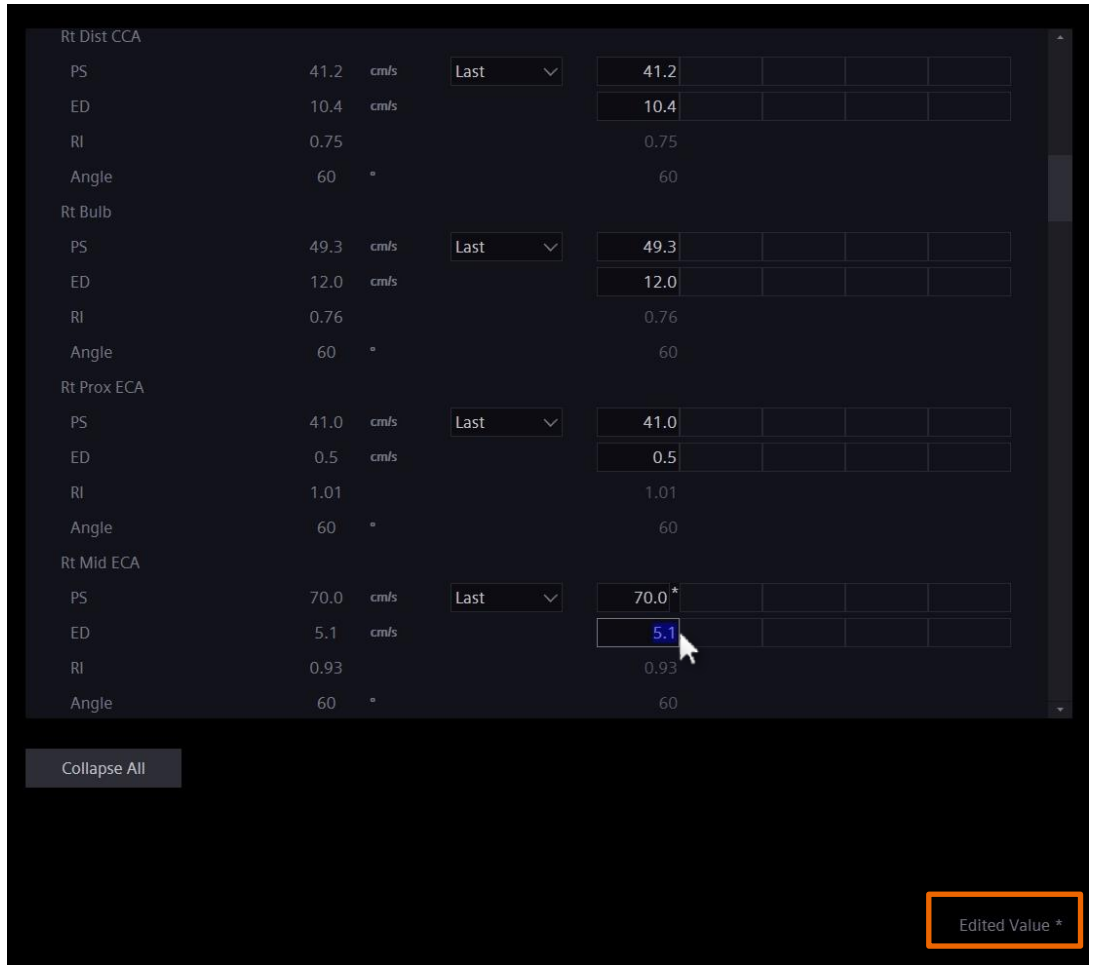
Imaging screen display



Edit report

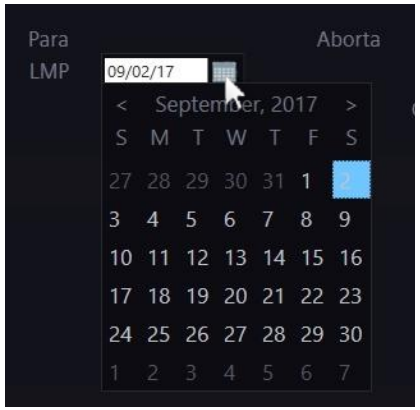
Once the **Edit Report** function is selected:

- Use the **Pointer** and **Set** key to select / highlight the value to be edited
- Use the keyboard to enter the new value or use the **Delete** key on the touch screen to remove value entirely
- Move to another cell with the **Tab** key or trackball to complete change / deletion
- Edited values will be indicated by an asterisk (*) in the data cell and noted at the bottom of the report

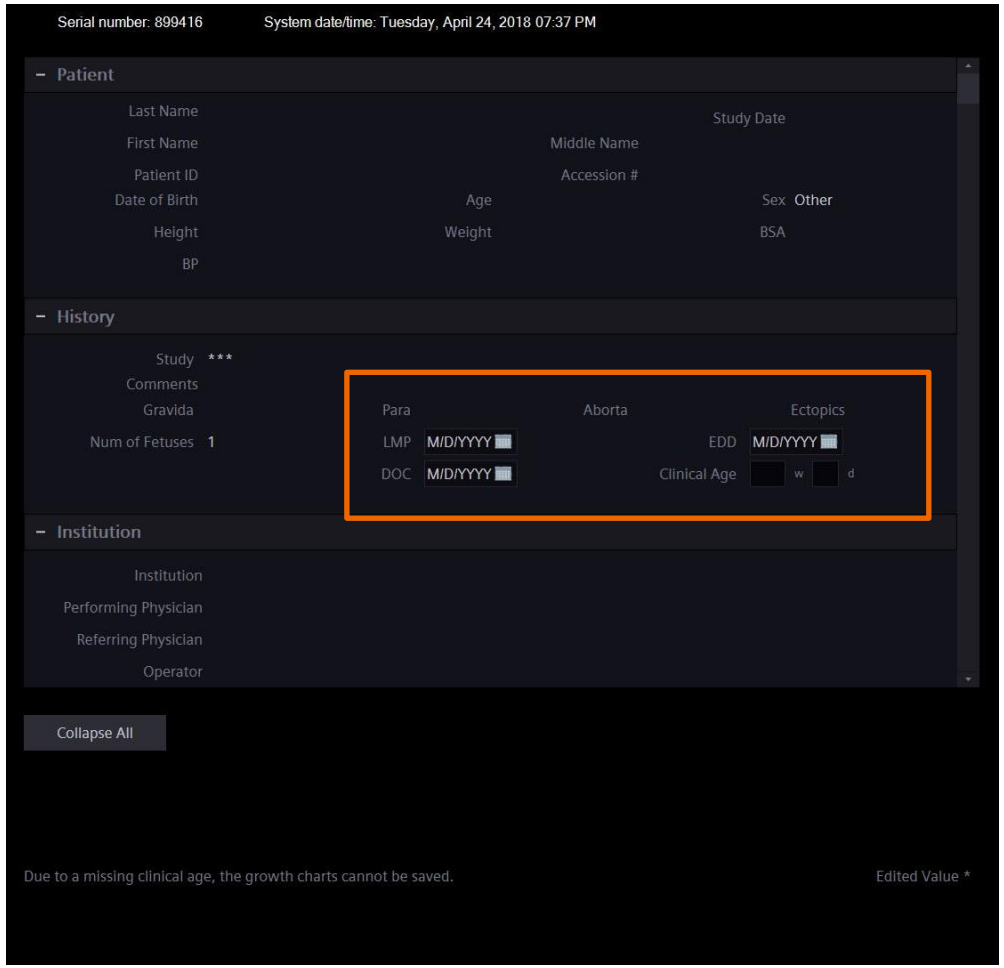


Editing OB dating data

- OB dating data can be edited on the report
- Use the **Pointer** to select the calendar drop-down and desired date



- Date can be altered manually by highlighting the field entering the date using the keyboard

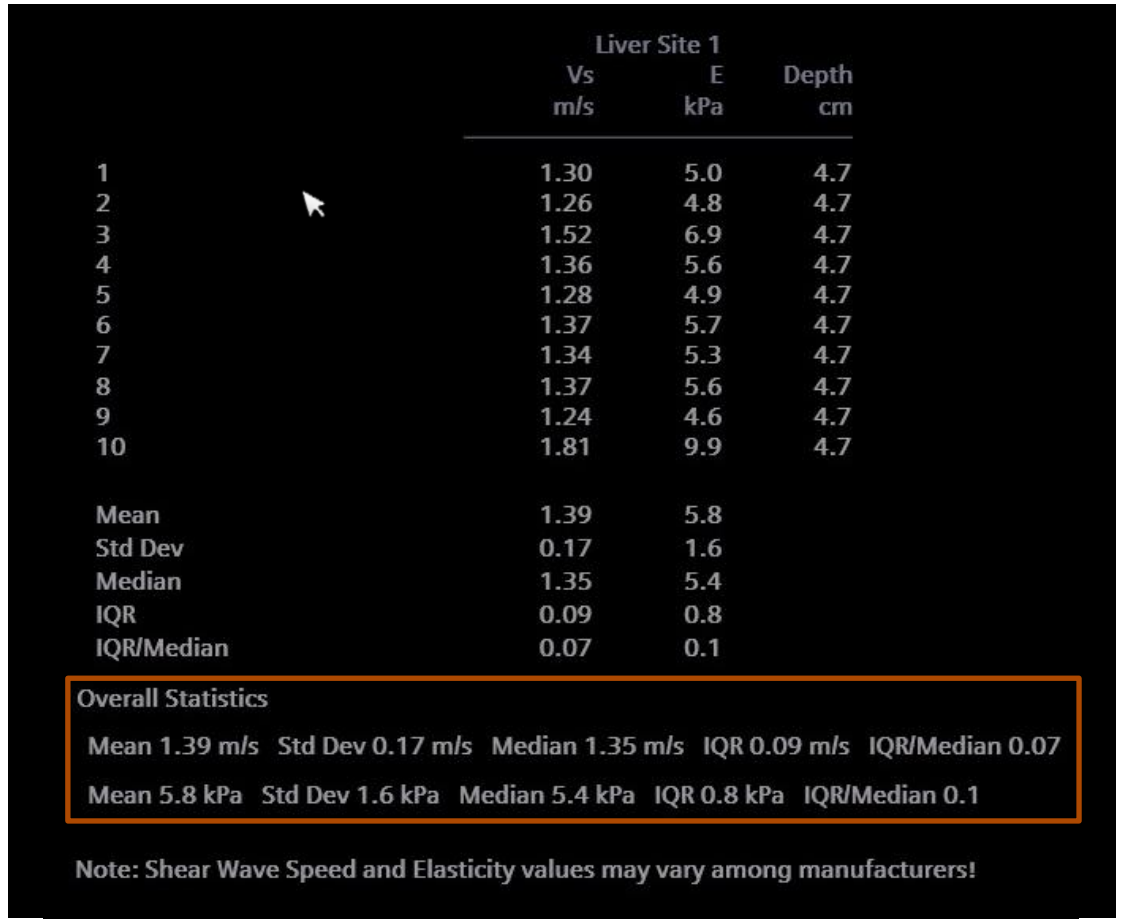


Edit OB dating data behavior

Data type available / entered	Report behavior	Patient registration
1. Last Menstrual Period (LMP)	• LMP is displayed and is editable • EDD and Clinical age are calculated from LMP • LMP does not change if Clinical Age is changed	• If LMP is edited from the report page, all values (LMP, EDD, and Clinical Age) are updated on the patient registration page
2. Expected Date of Delivery (EDD)	• EDD is displayed and is editable • EDD will be re-calculated on report if Clinical Age is edited • LMP will be blank (not calculated from EDD if a value was not entered originally)	• If EDD is edited from the report page, Clinical Age is re-calculated and both values are updated in the patient registration page • LMP remains blank if not entered
2. Clinical Age	• Clinical Age is displayed and is editable • If Clinical Age is edited, EDD will be re-calculated on the report • LMP will be blank (not calculated from Clinical Age if a value was not entered originally)	• If Clinical Age is edited from the report page, EDD is re-calculated and both values are updated in the patient registration page • LMP remains blank if not entered

Edit Shear Wave

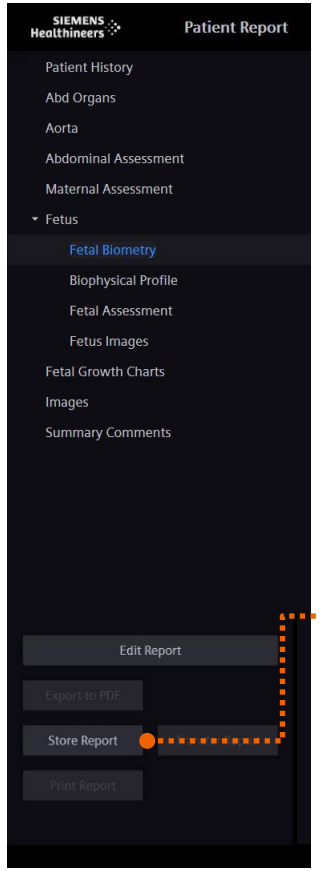
- Shear Wave values cannot be edited in the report, only deleted
- Select **Edit Report** to activate the editing function
- Values cannot be retrieved once they are deleted
- All values – Mean, Std Dev, Median, IQR, and IQR/Median listed in the results will be re-calculated



Objectives

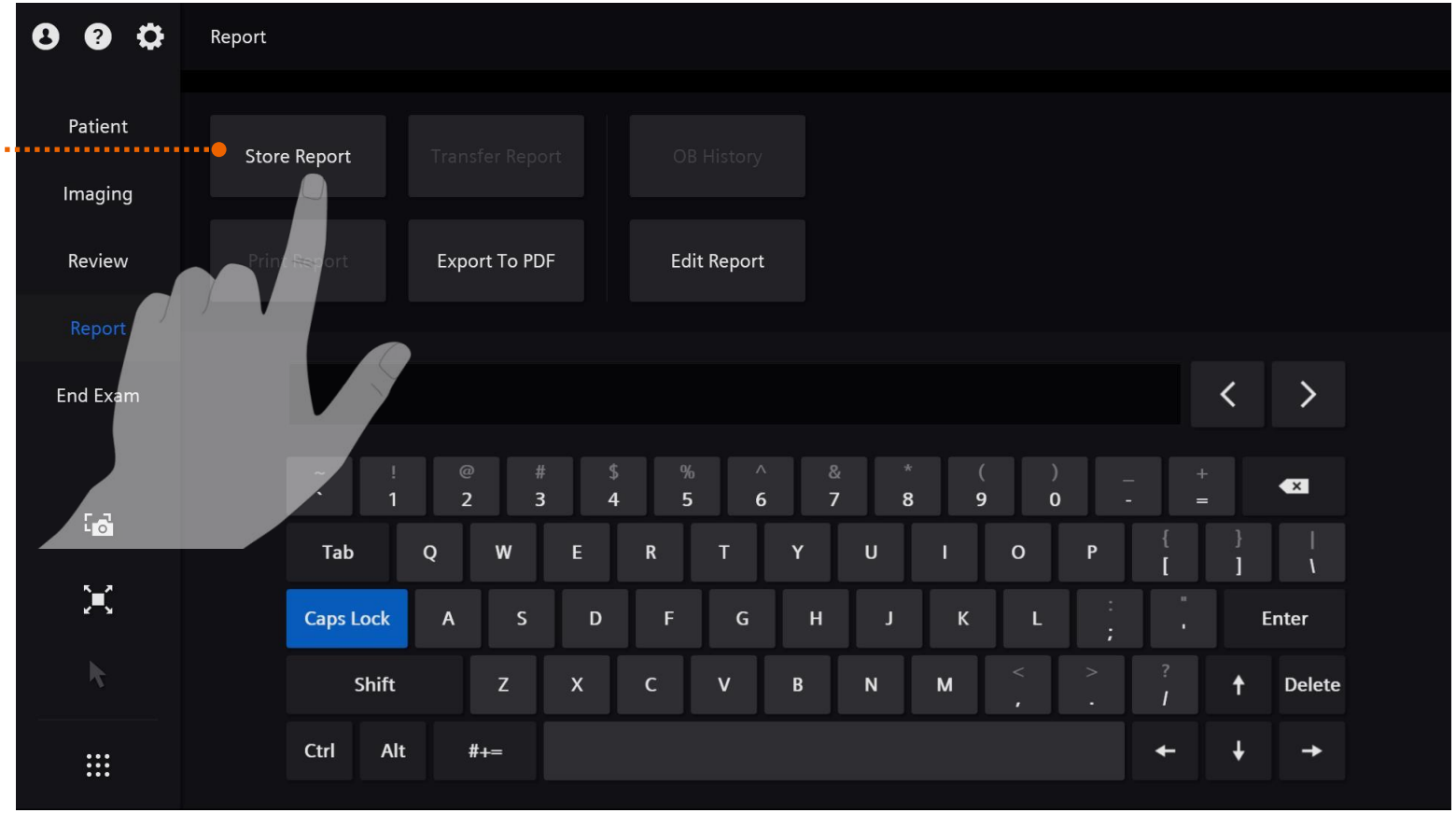
- Identify access to measurement feature and screen information
- Explain editing and deleting measurements
- List exam specific measurement options
- Examine report access, layout and editing
- **Outline printing options**

Print / store report



Touch screen store report option

Imaging screen store report option



Store report command

Summary

- Identify access to measurement feature and screen information
- Explain editing and deleting measurements
- List exam specific measurement options
- Examine report access, layout and editing
- Outline printing options

Thank you for your enthusiasm!

SIEMENS Healthineers

Questions?