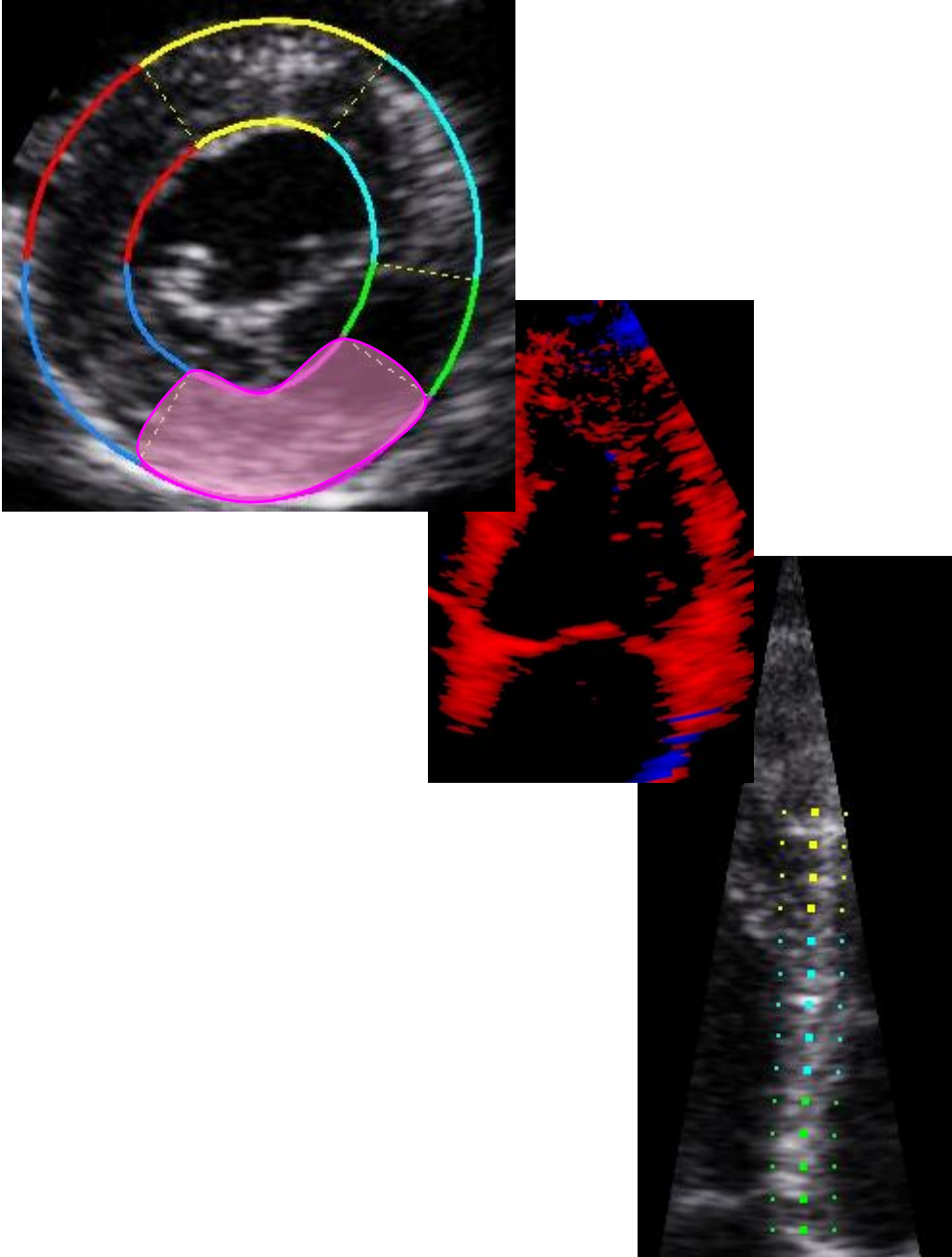


Application News



Special functions in 2D Strain analysis

(Only available on EchoPAC)



Content

SPECIAL FUNCTIONS IN 2D STRAIN ANALYSIS	1
CHANGING THE SEGMENTATION SIZE	4
REMOVE A SAMPLE VOLUME	6
ADD A SAMPLE VOLUME.....	7
ANALYSIS OF A TVI LOOP	8
Why is it interesting?.....	8
To be aware of - Frame rate.....	8
To be aware of - Curves derived from 2D.....	8
To be aware of - Comparing Q-Analysis with 2D Strain	8
How to do.....	8
ANALYSIS OF ONLY A SINGLE WALL	9
CHANGE TRIGGER POINTS.....	10
The start point.....	10
The AVC	10

NOTE

This hand out is additional training material.
For more information please refer to the user manual and/or reference manual.

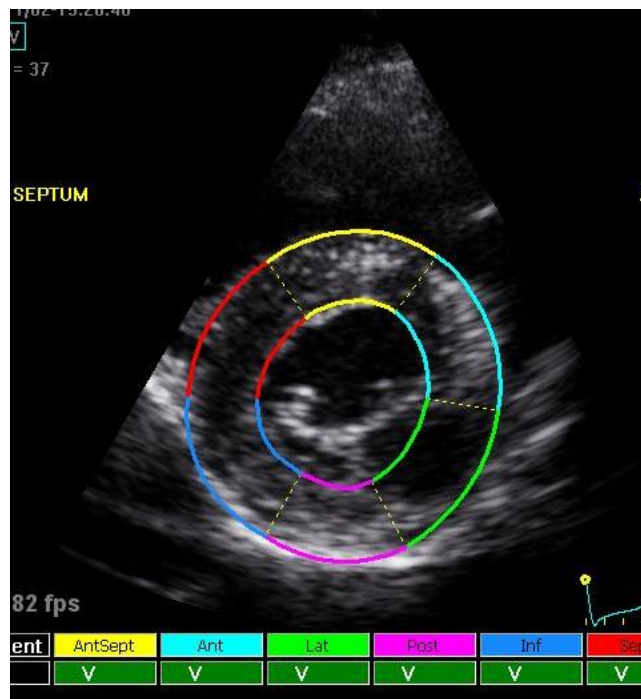
Changing the segmentation size

The 2D Strain analysis automatically divides the whole heart in 6 equally sized segments
To change the size of one or more segments the following steps have to be done.

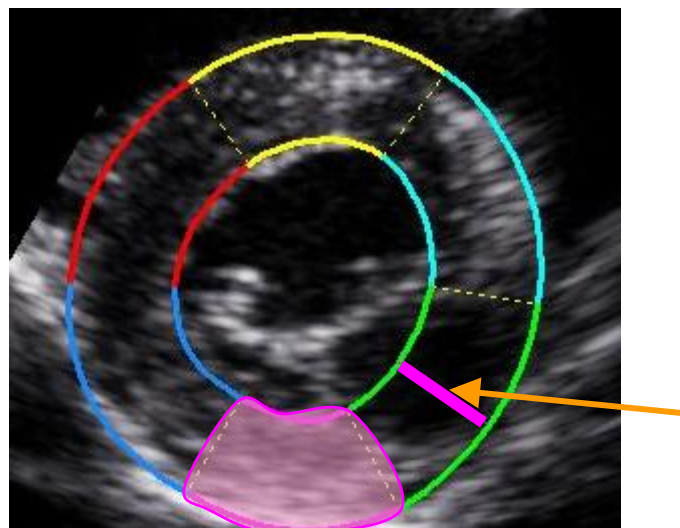
Start the 2D Strain analysis.

Define the ROI and run the processing until the point where the approval window comes up.
Here (only at this point) you have to **Stop** the loop.

You will see now solid lines for the ROI and the segmentation.



Move the *mouse cursor* over the ROI and you will see an additional line in between two segments.



Depending on the colour of the additional line you can change the size of the segment with the same colour.

Click the left mouse button to **set** the new border for this segment.
The size of the segment will increase immediately according to your settings.

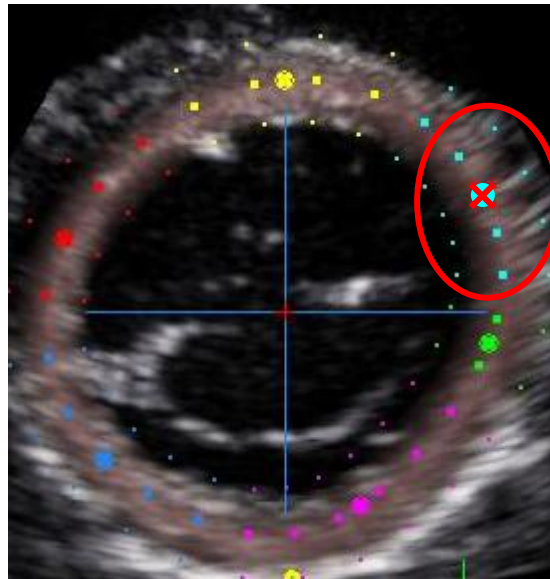


Remove a sample volume

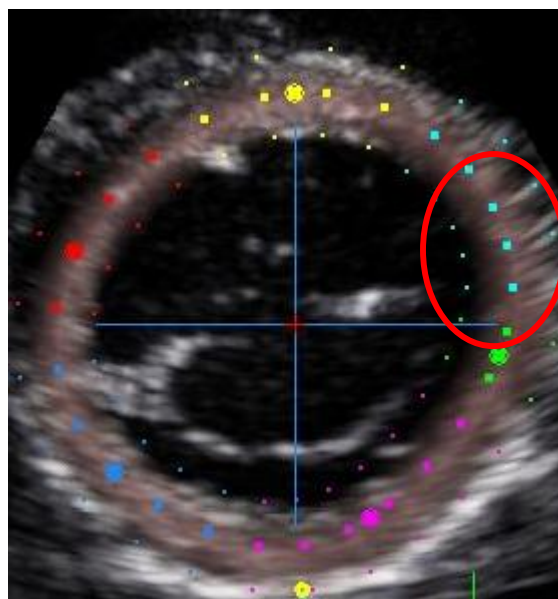
While in the Traces analysis screen you will see in the middle of each segment a bigger dot. This bigger dot represents the sample volume where the curve is derived from.

To remove one of these sample volumes you first need to **Stop** the loop.

Move the *mouse cursor* over the sample volume until it becomes a red cross.



Then click with the left mouse key and the sample volume will be removed from the image and the curve disappears from the analysis.

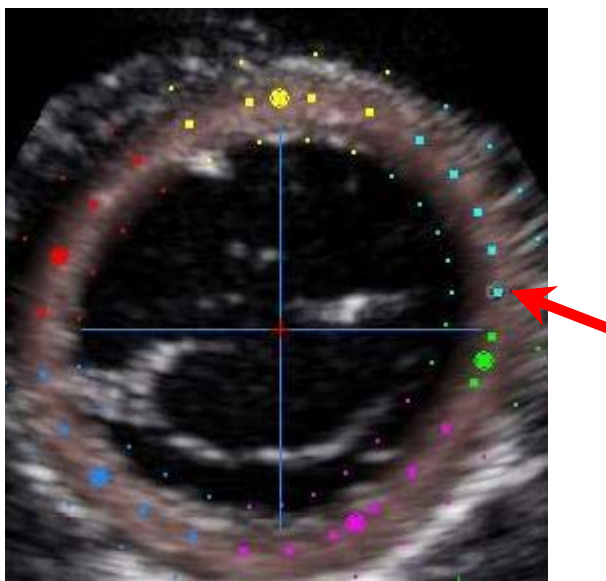


Add a sample volume

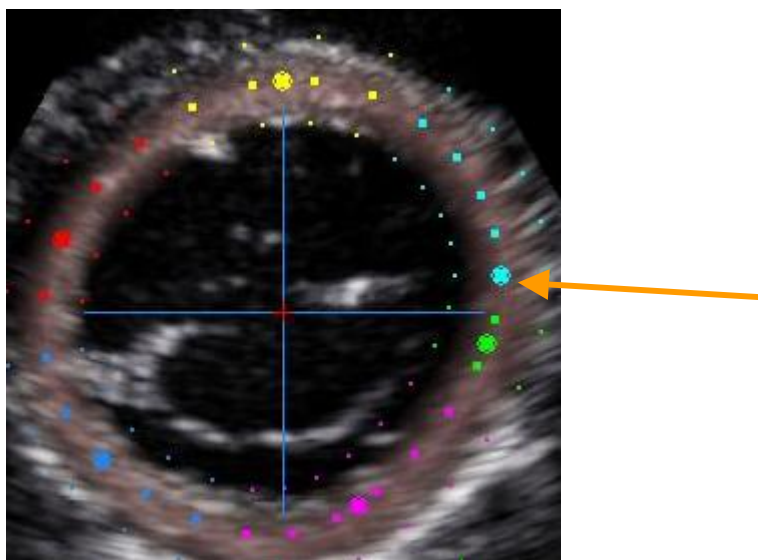
Once you have a deleted at least one sample volume it's possible to add a new sample volume at any position on the centre line of the segment.

The loop needs to be **stopped**.

Move the mouse cursor on the position where the sample volume should be placed.



Click the left mouse key and the new sample volume will appear immediately at the new position.



Analysis of a TVI loop

TVI loops can be analysed with 2D Strain as well.

In addition to the analysis from the 2D image there will be also TVI information in the analysis screen.

Why is it interesting?

In the Q-Analysis tool for TVI sometimes the sample volume is moving out of the myocardium during the heart cycle. To get best curves you can manually change the position of the sample volume for every image.

The 2D strain tool is tracking automatically the ROI within the heart cycle. Means the ROI is moving with the myocardium during the heart cycle.

To be aware of - Frame rate

When acquiring a TVI loop you will have high frame rates for the Doppler information but lower frame rates for the 2D image.

When opening a TVI loop you may see two frame rates in the lower right corner. First frame rate is for the 2D image, second for the Doppler information.

Be aware of this when doing analysis since the frame rate for the 2D might be quite low in these cases. In case the 2D frame rate is too low, the system will reject the analysis.

To be aware of – Curves derived from 2D

Since the frame rate of the 2D image is lower then, you might not get everywhere enough data to get proper curves.

In areas where the 2D data is not enough for a reliable curve the system will fill up the 2D information with information derived from Doppler.

Be aware that the curves from 2D can contain Doppler information as well. This means its angle dependent now!

To be aware of – Comparing Q-Analysis with 2D Strain

The sample volumes in Q-Analysis are very flexible in size and shape. Therefore it's most likely that the sample volumes are different in Q-Analysis in comparison to 2D Strain. Because of the different sample volumes the absolute values in the two analysis modes might vary.

How to do

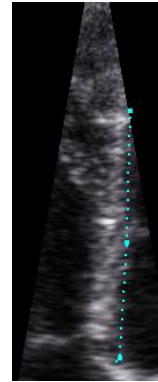
Do the analysis as used to the normal 2D Strain analysis.

In addition to the parameters for the 2D image you will get also the Doppler information.

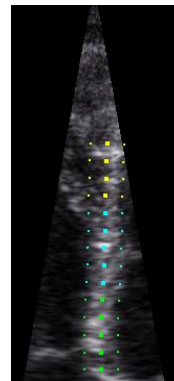


Analysis of only a single wall

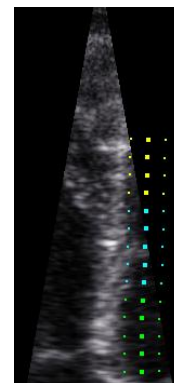
For some reason you may want to analyse only one wall.
Draw the ROI straight along the wall.



The system will give the ROI now only for one wall.



Depending on where the user starts the drawing of the ROI the system might choose the wrong side for the ROI.



In this case press the ROI side button in the menu on the right side and the system will adapt to the proper side.



Change trigger points

The start point

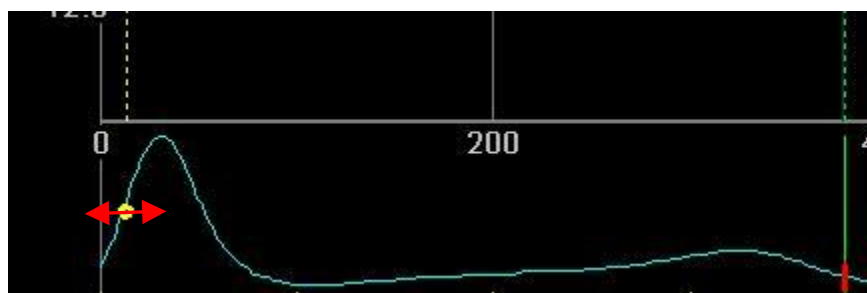
It's possible to change the starting point marked by the yellow dot on the ECG.

Note:

Be aware that the yellow marker is the starting point on zero line for Strain and Displacement curves.

To change the marker first the loop needs to be stopped.

Then move the cursor onto the yellow marker. The cursor pointer will change to a left left-right arrow. ↔



Press and hold the left mouse key and move the yellow cursor to a new position.

Note:

When changing the yellow marker the AVC will move together with it. The AVC is set at a certain time after the yellow marker. Either measured by event timing or detected automatically by the system.

The AVC

Even so the AVC is set according to the Event timing measurement or automatically detected by the system it can be moved to another position.

The loop needs to be stopped.

Then move the cursor onto the AVC line (in the area where the ECG is shown). The cursor pointer will change to a left left-right arrow. ↔

Press and hold the left mouse key and move the yellow cursor to a new position.