CLINICAL APPLICATIONS TRAINING SERIES

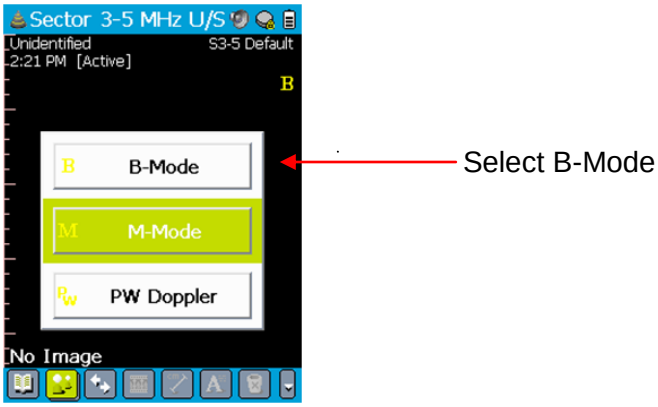
AAA SCAN - SURVEILLANCE OF ABDOMINAL AORTIC ANEURYSMS

Signos RT provides physicians and healthcare professionals with a simple tool for the routine screening of patients at risk of Abdominal Aortic Aneurysms (AAA's).

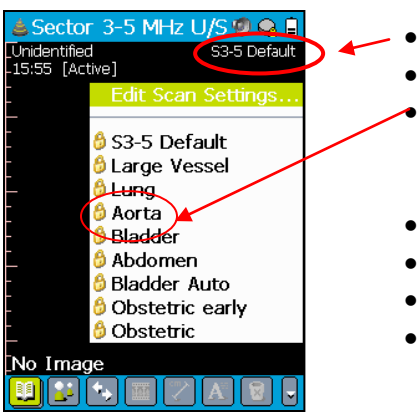
Ultrasound can be used as a AAA screening tool for patients at risk due to age and family history or for surveillance of a known AAA. Ask the patient to fast for 6 hours prior to the scan to reduce the amount of bowel gas as it can obscure visualization of the Aorta. A 3 - 5 MHz Transducer will be adequate to image the Aorta.

AORTA SCANNING HINTS

1. ***Turn Device on*** - button on top right
2. ***If you wish to enter patient details select***  **(User Manual Section 5)**
3. ***Select B-Mode*** - tap on the B, M or S-Mode symbol in the top right hand corner or hold down the *'snowflake'* scanning button until it 'Honks' then select B-Mode using the scroll wheel. **(User ManualSection 3)**



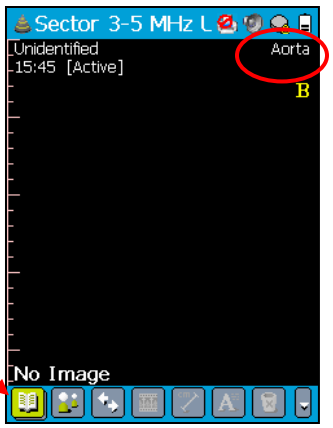
4. ***Select the 'Aorta' Preset*** **(User Manual Section 6)**



- Tap stylus on the preset icon (top right)
- Obtain drop down list
- Select **Aorta**

OR

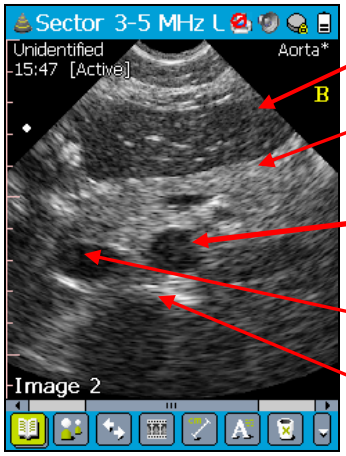
- Scroll to Main Menu (book icon) – click
- Select **Scan Preset**
- Select **Select Preset**
- Select **Aorta**



5. ***Perform a Transverse scan.***

- Place ultrasound gel on the patient from the xiphisternum to just below the umbilicus.
- Position the transducer on the patient.
- The transducer should be 90 degrees to the patient in the transverse plane with the Orientation Indicator aligned to the patient's right.
- Start scanning by pressing the '*Snowflake*' button. 

- Begin scanning just below the xiphisternum. The Aorta will appear black (anechoic). At this level the Aorta will be seen just below (posterior) to the pancreas and superior to the spine (which appears white).



Liver – mid level echoes

Pancreas - higher level echoes

AORTA – Black, round with white (echogenic) walls

IVC - black, changes shape with respiration and compression. No white walls

Spine – white, dark shadow behind

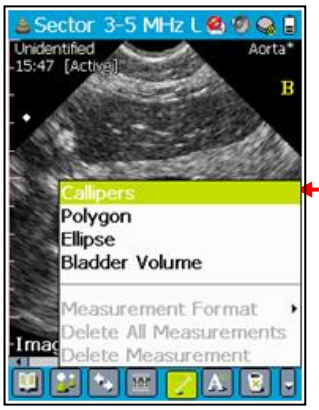
- Scan the entire length of the Aorta in the transverse cross-section plane to the bifurcation observing any changes in AP diameter.

6. ***Measure*** the Aorta at 2cm intervals checking for dilatation.

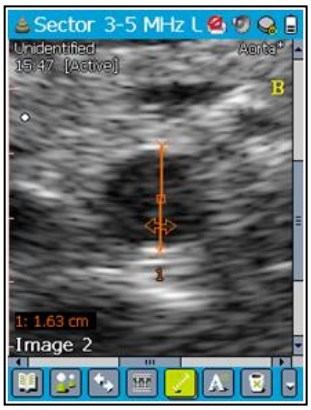
Freeze the image by pressing the 'Snowflake' button.

- **To measure** select  **(User Manual Section 5)**

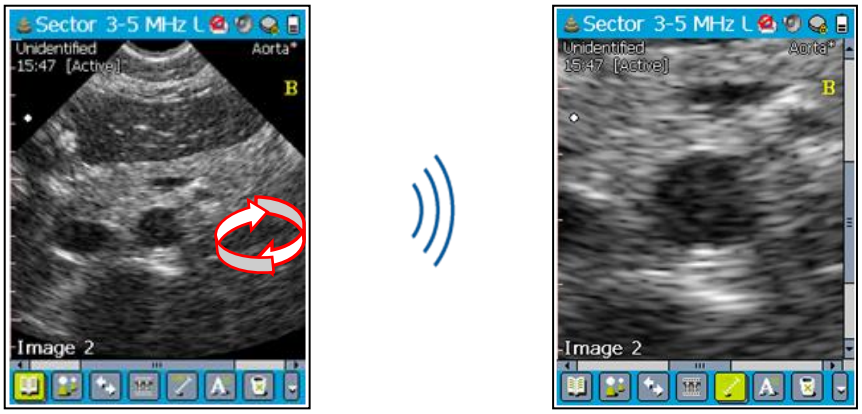
- **Select Calipers**



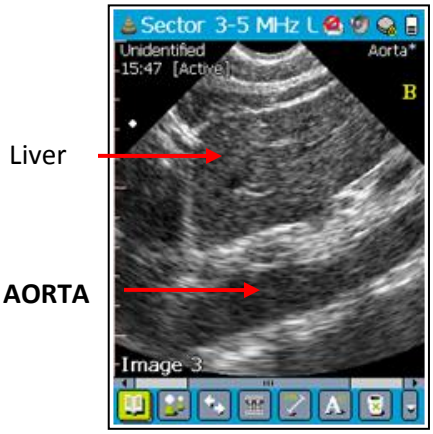
- Move the calipers with the stylus
- Place the calipers on the outer edge of the echogenic (white) borders of the Aorta.
- You want to measure the true size of the aorta not just the lumen.



- ***Magnify your image*** to improve the accuracy of your measurement. Touch the frozen image with the stylus and move the stylus in a clockwise direction**.** **(User Manual Section 7)**



7. ***Perform a longitudinal scan*** if you have an aneurysm to demonstrate the length.



- Rotate the probe 90 degrees.
- The orientation marker will be towards the patient's head.
- Scan the Aorta from superior to inferior in the longitudinal plane.
- Measure the length of the aneurysm.
- ***Do not*** measure the diameter of the aneurysm in the longitudinal plane as you can not be certain you are in the longitudinal plane of the greatest diameter.

HINTS……..

- Use ***considerable*** downward compression to disperse any overlying bowel gas. Patients tolerate graded compression well.
- If there is considerable bowel gas often the Aorta is not well seen. This is not due to your inability to scan or the limitations of the device.
- Try dodging the bowel gas!
    - If you can see the gas on the image to the patient's left, move the probe to the patient's right about 3cm and angle the transducer towards the patient's left and aorta (and visa versa) to enable you to scan under the gas..
    - If the bowel gas traverses the entire abdomen, scan superior to the gas and angle the transducer towards the patient's feet and under the gas or scan inferior to the gas and angle the transducer towards the patient's head and under the gas.