CLINICAL APPLICATIONS TRAINING SERIES

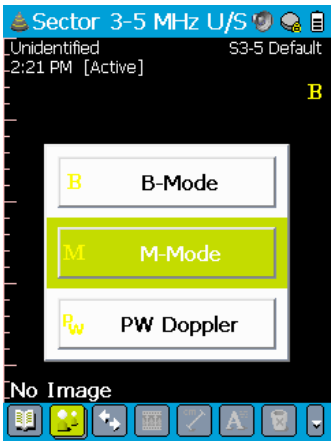
FAST SCAN – FOCUSED ASSESSMENT WITH SONOGRAPHY FOR TRAUMA

Signos RT provides a quick, easy and affordable method for determining the presence of free fluid in the haemodynamically unstable patient following trauma. The Right Upper Quadrant view (to assess Morison's Pouch), the Left Upper Quadrant view (to assess the Spleno-Renal angle), the Suprapubic view (to assess the Pouch of Douglas or rectovesical pouch) and the Subxiphoid view (to assess the pericardium) are all obtainable using Signos RT. If you wish to perform an E-Fast scan you can extend your examination to assess the thoracic cavity for Haemothorax and Pneumothorax using the Signos RT. The small transducer face facilitates easy intercostal and subxiphoid scanning. The position of anatomy and quality of any ultrasound image will vary with individual patient habitus.

1. ***Turn Device on*** - button on top right

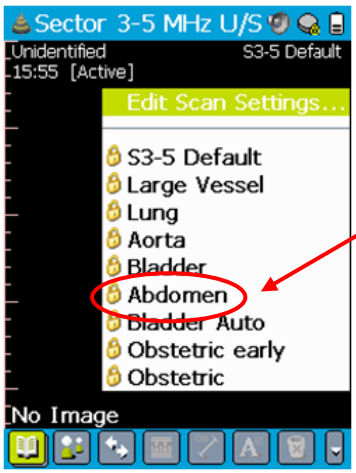
2. ***If you wish to enter patient details select***  **(User Manual Section 5)**

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 Manual Section 3)**



Select B-Mode

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



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

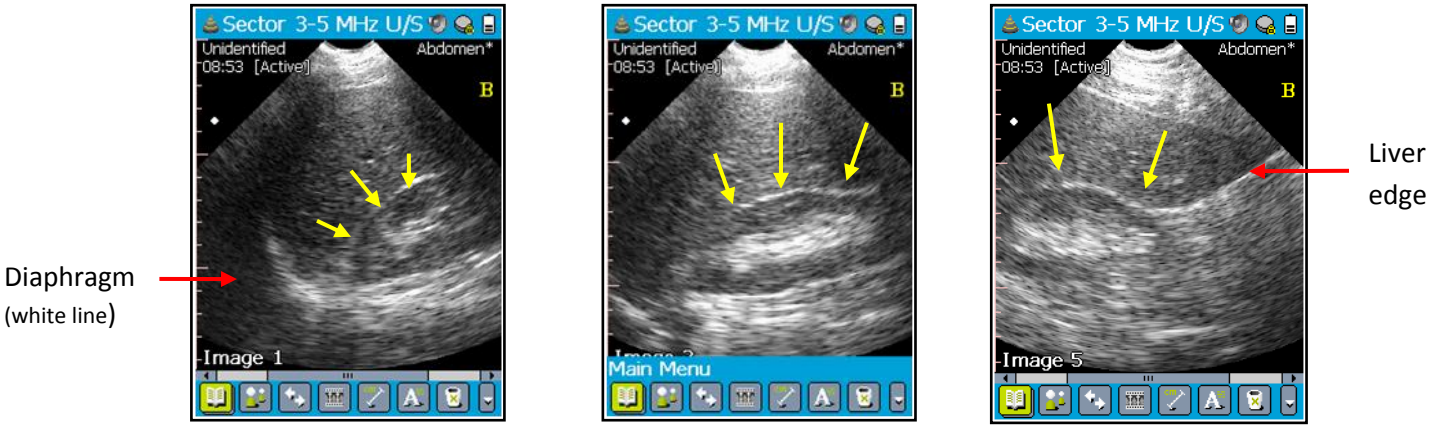
OR

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

5. *Right Upper Quadrant View*

This view assesses Morison's Pouch (the space between the liver and right kidney) for free fluid (**black**) usually following trauma. The patient is supine allowing the free fluid to collect in the most dependent regions of the body.

- Position the transducer 2-3 intercostal spaces above the lower costal margin in the mid-axillary line in *a longitudinal* plane. The *Orientation Marker* on the probe will be towards the patient's head. This is the approximate region of Morison's Pouch though it may vary between patients.
- Move the patient's right arm away from the area.
- If you can see the right kidney but not the liver you are too inferior - slide the transducer superiorly to the next intercostal space.
- If you can see lung and liver - slide the probe inferior in the direction of the kidney one intercostal space.
- If you can see the gall bladder or portal vein you are too anterior. The kidney is retroperitoneal - slide the probe posteriorly, towards the patient's back.
- Placing the patient head down will allow any free fluid to locate in the right upper quadrant.



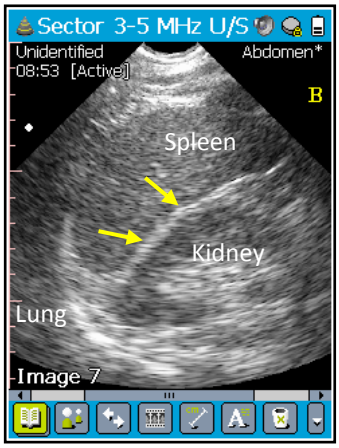
Morison's pouch (yellow arrows) at different intercostal spaces

Use slow & small adjustments of the transducer keeping the probe longitudinal, horizontal to the bed and perpendicular to the patient

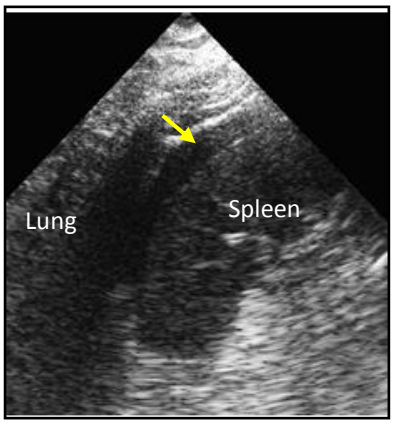
6. *Left Upper Quadrant View*

This view assesses the Spleno-Renal angle for free fluid between the spleen and the left kidney. This is performed in the same manner as the Right Upper Quadrant view in the longitudinal plane in the mid axillary line intercostally. The echotexture of the spleen is similar to the liver but as the spleen is generally smaller than the liver scanning one intercostal space superiorly is recommended. Often the spleen is difficult to see due to overlying bowel gas or low lung bases and a more posterior approach is needed.

Transducer position



Splenorenal angle (yellow arrows)

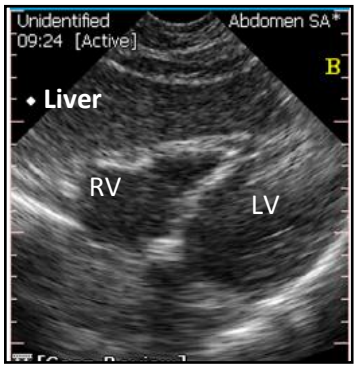


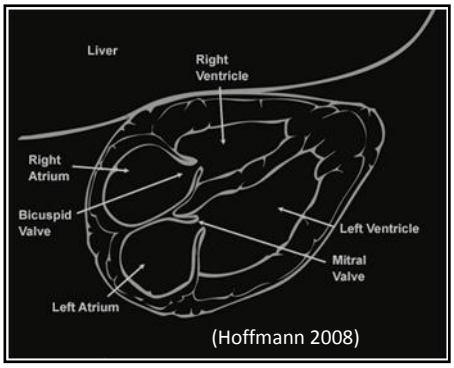
Free fluid (yellow arrow) may collect around the diaphragmatic surface of the spleen

7. *Subxiphoid view*

This view assesses the pericardium (sac around the heart) for free fluid.

- Position the transducer just below the xiphisternum.
- The transducer is almost parallel to the patient's abdomen, pointing to the left.
- Graded downward pressure is needed to angle up under the xiphisternum towards the heart.
- The liver is used as an acoustic window to visualize the heart.
- Pericardial fluid will be visualized between the liver and the heart.

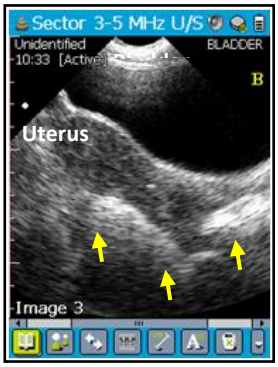




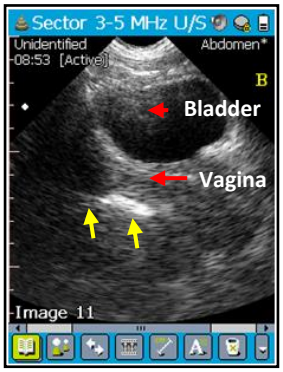
8. *Suprapubic view*

This view is used to detect free fluid in the Pouch of Douglas or Recto-vesical pouch.

- Place the transducer just superior to the pubic bone in the longitudinal plane in the midline.
- Survey the pelvic region from right to left to detect any pools of free fluid.
- Diagnostic quality is improved if there is fluid in the urinary bladder making visualization of the pouch of Douglas and the Rectovesical pouch possible (though not always obtainable with a critical patient).
- Confirm the presence of free fluid in the transverse plane. Rotate the probe so the orientation marker is to the patient's right.
- Scan the pelvis from superior to inferior ensuring you have angled the transducer under the pubic bone to detect any small inferior pools of free fluid.
- Tilting the patient's feet down will help any free fluid move to the pelvis.



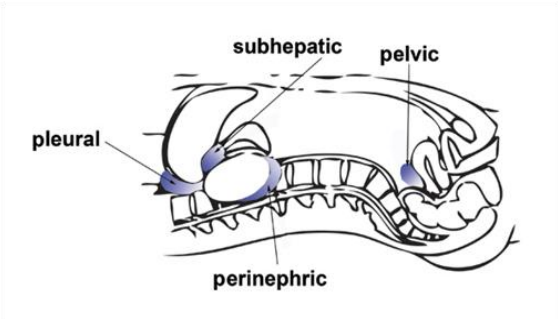
Full bladder Pouch of Douglas (yellow arrows)



Small bladder Pouch of Douglas (yellow

9. *E Fast Scan (extended)*

The extended FAST scan involves surveying the thoracic cavity for Pneumothorax and Haemothorax. Information on Lung scanning is contained in the **Clinical Applications Training Series – Lung** document.



Regions of potential fluid http://www.sonoguide.com/FAST.html