



Ultrasound System Orientation

SYSTEM CHECK



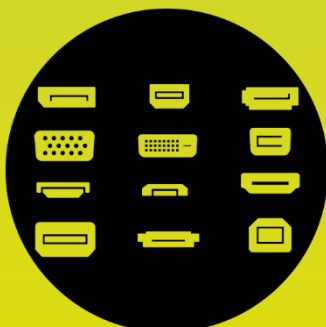
Turn off the machine
& turn it back on again.
How long does it take to boot up?




Is the system charged?
How long does it take to charge?
How much battery life
is left on the system?



Unplug the probe &
change probes.
Identify how the probe
displays on the screen.



Identify connection ports.
How many are there?
What sort of ports are there?
Network? Storage? Display?



LOCATE YOUR ON SCREEN INFORMATION

Are there any patient details still on the screen?
The previous exam may still be in progress.

How is your facility identified?

Is the time & date correct?

What transducer is plugged in & active?

What preset is currently set?

What is the MI setting?

What imaging mode is active?

What is the current depth setting?

3Ps: PATIENT, PROBE, PRESET

EXERCISE 1



Select the curved probe.
Identify what presets are available.



Choose the obstetric preset.



Enter the following patient details:
- Daisy Duck MRN 346446
- LMP: Today's date minus 2 months



Enter your initials as the user.



What depth is set?



What frequency is selected?



Which side of the image as you look at it is the screen orientation marker displayed?



Freeze image & choose 'Calcs'. Identify the calcs you'll use in your clinical practice.



What image labelling options do you have? Annotate? Label? Body marker? Explore the functionality of the options.



Go to Patient & end the exam.

3Ps: PATIENT, PROBE, PRESET

EXERCISE 2



Select the linear probe.
Identify what presets are available.



Choose the small parts preset.



Enter the following patient details:
- Peter Parker MRN 678456



Enter your initials as the user.



What depth is set?



What frequency is selected?



Which side of the image as you look at it is the screen orientation marker displayed?



Freeze image & choose 'Calcs'.
What measurements can you perform?



Go to Patient & end the exam.

3Ps: PATIENT, PROBE, PRESET

EXERCISE 3



Select the phased array probe.
Identify what presets are available.



Choose the cardiac preset.



Enter the following patient details:
- Clark Kent MRN 007888



Enter your initials as the user.

1

What depth
is set?

2

What frequency
is selected?

3

Which side of the image
as you look at it is the
screen orientation marker
displayed?

4

Freeze image &
choose 'Calcs'.
What measurements
can you perform?

5

Select the 'Annotate' button.
What words appear?

6

Go to Patient &
end the exam.

3Ps: PATIENT, PROBE, PRESET

EXERCISE 4



Select the transvaginal probe.
Identify what presets are available.



Choose a obstetrics/gynaecology preset.



Enter the following patient details:
- Lois Lane MRN 678456



Enter your initials as the user.

1

What depth is set?

2

What frequency is selected?

3

Which side of the image as you look at it is the screen orientation marker displayed?

4

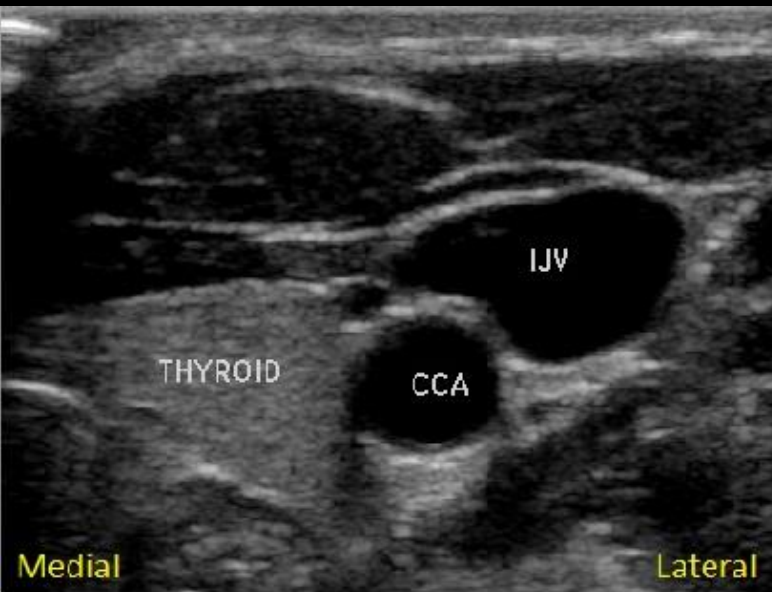
Freeze image & choose 'Calcs'.
What measurements can you perform?

5

Go to Patient & end the exam.

MODES & SOFT KEYS

M-Mode



Scan your neck over the carotid artery with the probe in a transverse orientation on the neck.



In B-Mode:

What functionality can you see on each of the soft keys?



Activate M-Mode & take an M-Mode trace of your carotid artery.

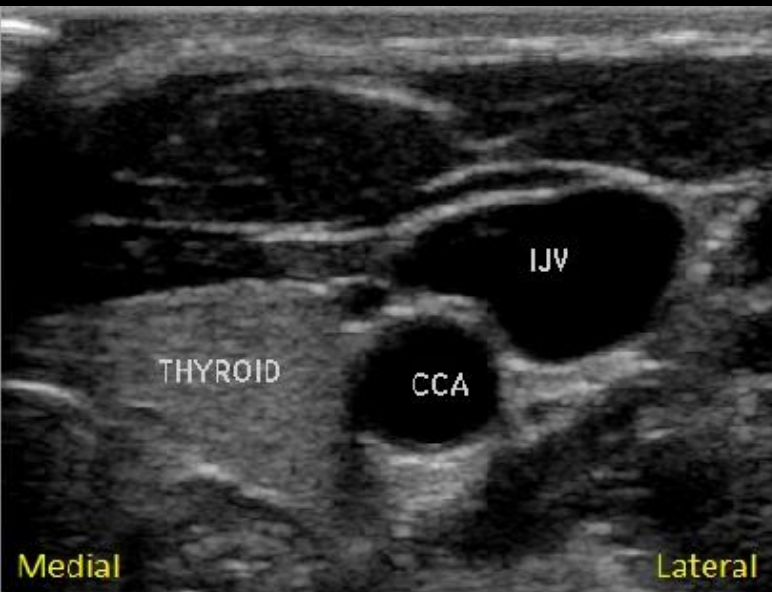
What functionality can you see on each of the soft keys?



Push B-Mode or 2D mode.

MODES & SOFT KEYS

Colour Doppler



Scan your neck over the carotid artery with the probe in a transverse orientation on the neck.



Activate Colour Doppler.



What scale is set on the colour bar?



What colour is on the top of the bar?



Change the size of the colour box.



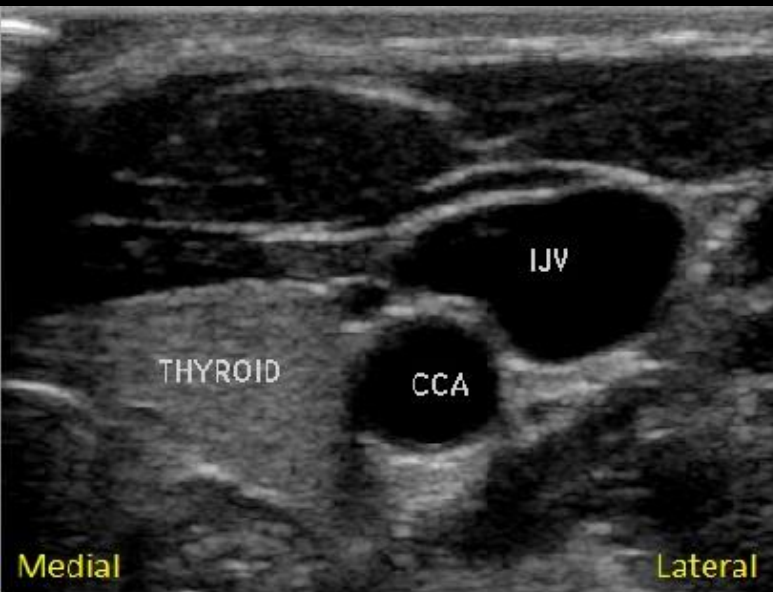
What functionality can you see on each of the soft keys?



Push B-Mode or 2D mode.

MODES & SOFT KEYS

Power Doppler



Scan your neck over the carotid artery with the probe in a transverse orientation on the neck.



Activate Power Doppler.



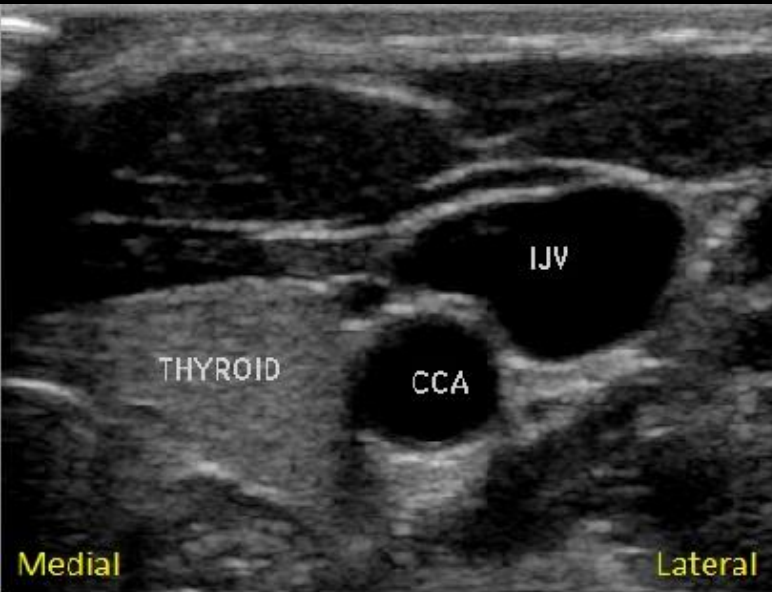
What colour is the flow in your carotid artery?



Push B-Mode or 2D mode.

MODES & SOFT KEYS

Spectral Doppler – PW or CW



Scan your neck over the carotid artery with the probe in a transverse orientation on the neck.



Activate PW Doppler.



What scale is set on the trace?



Is it measured in cm/sec or m/sec?



What functionality can you see on each of the soft keys?



Use the trackball/pad to adjust the position of the cursor.

IMAGING CONTROLS 1

Scan your wrist or neck.



Adjust the depth – what is the minimum & maximum depth on each transducer?



Adjust the gain – what happens?



Adjust the frequency – what happens?



Scan for about 20 seconds & move the probe up & down your neck a little. Push freeze.

- Use the cineloop button to find the image at the halfway point in your cine loop.
- Save the image.

MEASURING 1

Scan your wrist or neck.



Make three approximate measurements:

- Vertical 2.5cm or 25mm.
- Horizontal 5.6cm or 56mm.
- Save the image.



Record a volume measurement (2 images/3 measurements):

- Select the abdomen preset.
- Find the volume calculation in the 'Calcs' package.
- Freeze any image you have (normally a long axis view of the target by convention).
- Measure the 'depth' = 3cm or 30mm & enter into 'Calcs' package.
- Measure the 'width' = 4cm or 40mm & enter into 'Calcs' package.
- Unfreeze the image.
- Freeze any image you have (normally a short axis view of the target by convention)
- Measure the width (horizontally) = 5cm or 50mm & enter into 'Calcs' package.



What is the volume?

MEASURING 2

Using a phased array or curved array & an obstetric preset ...



Freeze the image & make a CRL measurement of approximately 1.0cm or 10mm.

- How many weeks is this?
- Save the image?



Freeze the image & make a CRL measurement of approximately 4.5cm or 45mm.

- How many weeks is this?
- Save the image?



Freeze the image & make a CRL measurement of approximately 8.4cm or 84mm.

- How many weeks is this?
- Save the image.
- Make sure the measurements save to the report.

IMAGE ARCHIVING



Scan your wrist &/or neck again...

- Save 2 separate images – long & transverse.
- Save 2 loops (videos).
- Use the 'Label' or 'Annotate' function to write on both images.



Go to the REPORTS page:

- Save an image of the reports page.
- What is the average gestational age by ultrasound measurement that you made in 'Measuring 2'?
- Delete the 84mm measurement you made in 'Measuring 2'.
- What is the average gestational age by ultrasound measurement now?
- End the patient exam.



Export your images:

- Go to review – find your patient & select.
- If you have a USB export images to USB.