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## Regional Anaesthesia with M5 scanner

### Imaging nerves and blood vessels

- 1) Turn M5 off while changing probes. Press ON/OFF button once in top right hand corner and select "Quick off" on screen by using "SET" key.
- 2) M5 ON/OFF is similar to a computer. You must wait for the M5 to switch right off.
- 3) Probes can be changed while the system is powered on but first the FREEZE button in bottom right hand corner of the keyboard must be ON (lit up). Unfreeze after connecting the new probe.
- 4) Probes are connected (one probe at a time) on the rear of the scanner right hand side if looking at the screen. The cable end of the probe connector is on the right hand side. Push the probe connector in firmly and gently move the lever up to lock the probe into the connector (always be gentle with probes and their connectors).
- 5) The probe for Nerve and Blood Vessel Imaging is a Flat Linear array probe Model no. 7L4s (10MHz). Freq can be switched down using the soft keys. When the 7L4s linear probe is plugged in. The M5 scanner selects NERVE as the default setting and the word NERVE should appear on the top of the screen. There should be no need to change settings for scanning either nerves or vessels. (There is an EXAM key on the LHS of the keyboard if you wish to try this). Use the track ball and SET key to change exam types.
- 6) The DEPTH keys on the bottom RHS of keyboard alters depth shown on screen in centimeter markings. Change to view deeper structures.
- 7) The overall B mode gain is the knob labeled "iTouch" underneath the slider controls for TGC (time-gain control). Rotating the knob varies B mode overall gain which is the amplification of the received ultrasound signal ("echo").
- 8) The slider controls should be in a straight line 80% towards the right hand side.
- 9) The "iTouch" control is a feature to optimize TGC. It's not often used.
- 10) The scanner has a colour Doppler feature which may be switched on by pressing the colour button to the right of the trackball. This enables the user to see arteries pulsating in colour.
- 11) When the colour box appears on screen, the box size can be varied by pressing the SET key and using the trackball. Press the SET key again when the box is re-sized. The box can then be moved around the screen and over blood vessels to "see" them. The gain control knob now alters colour gain.
- 12) The angle of the colour box can be varied + or - 12 degrees with the soft key at the bottom of the screen labeled "steer".
- 13) With colour off the soft keys at the bottom of the screen left to right are
  - Frequency (default is 10MHz for the linear probe)
  - iBeam (default 3)
  - Focus position (varies an arrow on screen)
  - Dynamic range (more or less grey scale)

- Trapezoid (on = wider field of view at depth)

14) When colour is on, the soft keys default to colour controls.

15) When PW is pressed, PW Doppler is switched on. The soft keys default to PW controls.