

SLO6- Point of Care Ultrasound Competence Entrustment Scale Guidance for Education and Training

General Physics/Artefacts/Settings/Probe manipulation & language

1	Direct supervisor observation/involvement, able to provide immediate direction/ assistance
2a	Supervisor on the 'shop-floor' (e.g. ED, theatres, AMU, ICU), monitoring at regular intervals
2b	Supervisor within hospital for queries, able to provide prompt direction or assistance and trainee knows reliably when to ask for help
3	Supervisor 'on call' from home for queries, able to provide directions via phone and able to attend the bedside if required to provide direct supervision
4	Would be able to manage with no supervisor involvement (all trainees practice with a consultant taking overall clinical responsibility)

	Skills	Knowledge	Behaviours
1	<p>Demonstrates of basic ultrasound machines checks</p> <p>Demonstrates basic probe handling and orientation</p> <p>Shows the basic machine settings and optimisation:</p> <ul style="list-style-type: none"> How the patient and scan details are entered onto the machine either prospectively or retrospectively after each examination Which probe(s) is the most appropriate for the examination and why? Select the correct pre-settings for the examination Could optimise the image by adjusting Gain, Depth, and Focus 	<p>Knows the appropriate disinfection protocol for the probes and machine</p> <p>Knows the basic science and physics of ultrasound</p> <p>Knows basic ultrasound ALARA, principles of mechanical and thermal Indexes, and 'fragile tissues'</p>	<p>To adheres to the general etiquette of using ultrasound machine</p> <p>To appreciate basic ultrasound safety</p> <p>To appreciate general ultrasound ergonomics (environment, patient position, operator, machine)</p>
2a	<p>Demonstrates further optimisation of the imaging by probe manipulation</p> <p>Able to acquire, label, save, report the scanned images, and reproduce the images for a review by a supervisor as per local policy/guidelines</p>	<p>Knows the language for probe manipulation (slide, rock, sweep, fan, pressure/compression, rotation)</p>	<p>To appreciate that image optimisation could be achieved not only by adjusting the marching settings, but also by probe correct handling and manipulation as well as changing patient position</p>

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<p>2b</p>	<p>Able to select M-Mode only for further assessing pneumothorax</p>	<p>Knows common ultrasound artefacts (Reverberation/ring-down/acoustic shadowing/post-cystic enhancement /mirror Imaging)</p>	<p>To appreciate the different in ultrasound machines models and makes</p>
<p>3</p>	<p>Could identify and turn off/reset settings beyond basic such as TGC, zoom harmonics, compound imaging, multiple focus (machine manufacturer depending)</p>	<p>Knows common ultrasound artefacts could be used as an advantage for imaging different regions</p>	<p>To be familiar and comfortable with different ultrasound machines</p>
<p>4</p>	<p>Shows the advanced machine settings and optimisation</p> <ul style="list-style-type: none"> ● Could optimise the image by adjusting/turning on harmonics, compound imaging, multiple focus, zoom, TGC ● Able to select the scanned images for review <p>Demonstrates using common ultrasound artefacts to advantage for imaging different regions</p>	<p>Knows the principles of advanced US machine settings:</p> <ul style="list-style-type: none"> ● TGC ● Zoom ● Multiple focus ● Harmonics ● Compound imaging <p>Knows advance US imaging artefacts (Side/Grating lobes)</p> <p>Not use any other setting/imaging modes such as colour/power doppler, pulse doppler and any other modes not included within the syllabus</p>	<p>To promote general etiquette of using ultrasound machine, including basic safety, and ergonomics</p>