

POCUS Fundamentals Certificate

Course ID: IBH-PFM Weekends Only Duration 5Days 40hrs Price 950.

Overview

Fast-paced yet comprehensive preparatory POCUS Fundamentals course designed in such a way to give students the best first hand didactic as well as the required skills to apply ultrasound in clinical evaluation write the Pocus Fundamental certification in the shortest possible time frame without compromising the quality of knowledge and expertise. The course is run by a highly experienced instructor having vast teaching experience of ARDMS preparatory courses with very high success rates.

All students receive a free access code for the POCUS Fundamentals certificate after completing the Pocus Fundamental course

Prerequisites

The current prerequisite is limited to having prior healthcare training.

Prep Materials

IBTech Instructor Notes

[*American Institute of Ultrasound in Medicine Resources*](#)

[*Physics Of Ultrasound! Trivia Questions And Facts Quiz*](#)

[*Ultrasound Physics SPI Mock Exam*](#)

<https://sonographycanada.ca/>

<https://www.ardms.org/>

[https://www.acronymattic.com/American-Society-of-Ultrasound-Technical-Specialists-\(ASUTS\).html](https://www.acronymattic.com/American-Society-of-Ultrasound-Technical-Specialists-(ASUTS).html)

<https://www.sdms.org/>

<https://www.cmrito.org/>

Download Course Content

Hours	Content	Relative Weight %
10	<p>ULTRASOUND</p> <ol style="list-style-type: none">1. Introduction to Ultrasound2. Sound waves<ol style="list-style-type: none">a. Soundb. Wavesc. Frequencyd. Periode. Wavelengthf. Propagation speedg. Harmonics3. Pulsed ultrasound<ol style="list-style-type: none">a. Pulse repetitionb. Frequencyc. Periodd. Pulse duratione. Duty factorf. Spatial pulse lengthg. Frequencyh. Bandwidth4. Attenuation<ol style="list-style-type: none">a. Amplitudeb. Intensityc. Attenuationd. Decibele. Calculation of attenuation lossf. Determination of echo intensity5. Echoes<ol style="list-style-type: none">a. Perpendicular incidenceb. Impedancec. Oblique incidenced. Refractione. Scatteringf. Speckleg. Contrast agents	25%

	h. Range	
7	<p>TRANSDUCERS</p> <ol style="list-style-type: none"> 1. Construction and operation <ol style="list-style-type: none"> a. Piezoelectric element and properties b. Damping material c. Matching layer d. Coupling medium e. Invasive transducers f. Repetition and frequency period g. Spatial pulse length h. Sensitivity, Q value and bandwidth i. Imaging applications 2. Beams and focusing <ol style="list-style-type: none"> a. Near and Far zones b. Focusing 3. Automatic Scanning <ol style="list-style-type: none"> a. Linear array b. Convex array c. Phased array d. Electronic focus e. Variable aperture f. Section thickness focus g. Grating lobes h. Vector array i. Reception steering, focus and aperture. 4. Detail resolution <ol style="list-style-type: none"> a. Axial resolution b. Beam width and Lateral resolution c. Useful frequency range d. Review 	17.5%
5	<p>INSTRUMENTS</p> <ol style="list-style-type: none"> 1. Beam formers 2. Signal processors 3. Image processor <ol style="list-style-type: none"> a. M mode /A mode/B mode b. Output devices c. Picture archiving and communication systems (PACS) 	12.5%

6	<p>DOPPLER PRINCIPLES</p> <ol style="list-style-type: none"> 1. Ultrasound Modes <ol style="list-style-type: none"> a. Color Doppler b. Power Doppler c. Other Doppler Modes <p>COLOR DOPPLER DISPLAYS</p> <ol style="list-style-type: none"> 2. Color Doppler principle <ol style="list-style-type: none"> a. Instruments b. Doppler shift detection c. Color controls d. Color Doppler Limitations e. Doppler shift displays f. Angle g. Doppler power displays h. Advantages and Disadvantages 3. Spectral Doppler display 	15%
7	<p>ARTIFACTS</p> <ol style="list-style-type: none"> 1. Propagation <ol style="list-style-type: none"> a. Slice thickness b. Speckle/ reverberation/ mirror image c. Refraction d. Grating lobes/ speed error e. Range ambiguity 2. Attenuation <ol style="list-style-type: none"> a. Shadowing b. Enhancement 3. Spectral Doppler <ol style="list-style-type: none"> a. Aliasing b. Nyquist Limit c. Range Ambiguity d. Mirror image 4. Color Doppler <ol style="list-style-type: none"> a. Aliasing b. Mirror image/ shadowing/ refraction/ clutter/ noise 	17.5%
2	<p>PICTURE ARCHIVING AND COMMUNICATION</p> <ol style="list-style-type: none"> 1. Digital imaging and communications 2. Data management 	5%

	<ul style="list-style-type: none"> 3. Medical information systems 4. Data transmission and storage 5. Data compression 6. Mini picture archiving and communication system in Sonography 7. Security reliability and quality control 	
3	<p>BIOLOGICAL EFFECTS AND CLINICAL SAFETY</p> <ul style="list-style-type: none"> 1. Interaction of ultrasound with matter 2. Effects on cells and tissues 3. Genetic and teratogenic effects 4. Clinical safety risks versus benefits 5. AIUM model to limit temperature rise 6. Acoustic output indices 	7.5%
40 Hrs		100%

