

EFFECT OF A BASIC TRAINING PROGRAM ON EMERGENCY CLINICIAN ACCURACY TO SEMI-QUANTITATIVELY ASSESS THORACIC AND CARDIAC STRUCTURES USING FOCUSED CARDIAC ULTRASOUND (FOCUS).

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Companion animals presenting to the emergency room in distress need to be assessed rapidly and accurately to implement life-saving therapies. Focused cardiac ultrasound (FOCUS) can be a useful adjunct to the physical examination in assessing dyspneic animals in the emergency room. Rapid bedside ultrasound evaluations performed by EC are commonly used in human medicine, however feasibility and utility of FOCUS by EC in veterinary medicine has not been fully evaluated. The purpose of this study is to determine the baseline accuracy of FOCUS performed by EC and whether or not a basic training session could improve accuracy compared to evaluation by a cardiology specialist. Fifteen EC including 6 boarded emergency-critical care specialists and 9 emergency residents performed FOCUS on four animals; a normal cat and dog, and a cat and dog with severe valvular and myocardial heart disease, respectively. EC semi-quantitatively assessed 6 thoracic and echocardiographic parameters including left atrial dimension, left ventricular systolic function and wall thickness, right heart dimension, and presence or absence of pleural or pericardial effusion before and after a structured didactic lecture and hands-on practical session. Primary outcome was the level of agreement with examination performed by a cardiologist. Level of agreement regarding

EC assessment of all parameters improved from 0.70 to 0.78 after training ($P < 0.01$). Level of agreement concerning left atrial diameter improved from 0.52 to 0.75 ($P < 0.01$). EC confidence in their overall FOCUS evaluation and findings improved from 51% to 70% ($P < 0.0001$). In summary, EC accuracy and confidence in semi-quantitatively assessing basic cardiac parameters using FOCUS were improved following a simple structured training session. FOCUS might be a valuable tool to rapidly assess simple thoracic and cardiac parameters in the emergency setting.

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