**Echocardiographic guidelines for dogs and cats**

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**Keynote message**

* Echocardiography is indicated to non-invasively evaluate the hearts of all species, including dogs and cats. However, our guidelines now need to be updated and it is apparent in the literature that there several different ways of measuring chambers such as the left atrium and left ventricle, which are not interchangeable. These factors may not make a big difference in coming to a diagnosis of disease, once it is advanced. However, when screening for disease, or staging that disease (such as hypertrophic cardiomyopathy in cats, dilated cardiomyopathy in dogs, identifying stage B2 of dogs with myxomatous mitral valve disease), it is important that robust criteria are followed.
* We are confronted by a wide range of body sizes and conformations, especially for dogs. Breed specific reference ranges are required and increasingly becoming available in the literature, but not all breeds or cross-bred animals will have reference ranges available. We are therefore dependent on normalising for body size (allometric scaling). There have been some recent excellent publications giving these. However, the impact of age and body condition score on these variables may need to be considered.
* During a particular echocardiographic study, to compare with a particular published reference range for that species / breed / weight, we need to be sure that our acquisition and measurement of the study is similar to that described in the reference paper.
* Repeatability and measurement variability should be addressed. Many excellent recent publications include these data, which means a genuine difference (e.g. progression of disease; response to treatment) can be identified during serial examinations. However, it should be assessed for one-person but especially multi-person echocardiography services. Aiming to optimise intra- and inter-observer (and examiner) repeatability can be regarded as a measure of competency.
* This speaker is privileged to be a member of the writing committee of *Guidelines for Acquisition and Quantitation of Transthoracic Two-Dimensional and M-mode Echocardiograms in the Dog and Cat*, being prepared for the American Society of Echocardiography (ASE), led by Professors John Bonagura and Virginia Luis Fuentes. The writing panel includes two sub-committees, concentrating on canine and feline guidelines respectively. Work is in progress at the time of writing.
* Future guidelines could be considered at different levels: for specialist cardiologists, for general practitioners (e.g. confirming left atrial enlargement in a cat with HCM), or for emergency clinicians (thoracic point of care ultrasound). Levels of competency have recently been proposed by Bonagura & Luis Fuentes.

(400 words).

**Key references**

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