

# Enlarged Heart: Feline

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**CARDIOMEGALY** is a common feature of cardiac disease in cats. Both thoracic radiography and echocardiography are necessary to adequately define the type and severity of cardiac disease in this species. Thoracic radiographs are useful to detect cardiomegaly and the presence or absence of congestive heart failure; however, the specific underlying cardiac disease cannot be determined with radiography in cats. Echocardiography is useful for characterization of the underlying cardiac disease (e.g., hypertrophic cardiomyopathy, dilated cardiomyopathy, restrictive cardiomyopathy, unclassified cardiomyopathy); however, it cannot provide information on whether pulmonary venous congestion and edema are present. Thoracic radiography and echocardiography should be considered complementary imaging methods for the feline patient with cardiac disease, as demonstrated in this article. Normal images are provided for comparison.



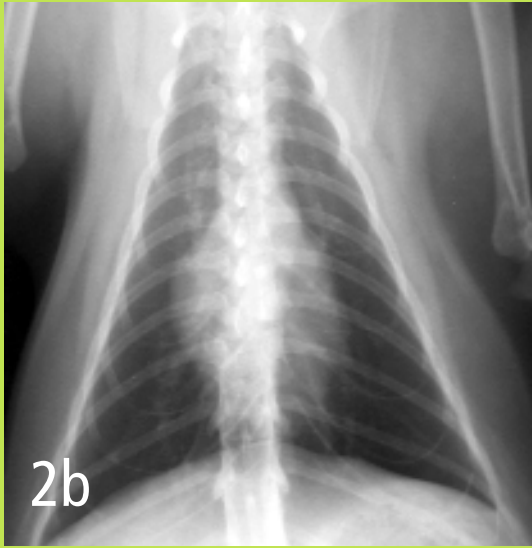
**Enlarged.** Dorsoventral radiograph of the thorax showing moderate to severe cardiomegaly, prominent vasculature, and a diffuse bronchointerstitial pattern consistent with cardiogenic pulmonary edema. The width of the cardiac silhouette is more than two thirds the width of the thorax, indicating cardiomegaly. This radiograph demonstrates the classic "valentine heart" appearance, which is not specific for any particular type of cardiomyopathy in cats. (73% original size)



**Enlarged.** Lateral radiograph of the thorax of a cat showing a tall, wide cardiac silhouette indicating moderate to severe generalized cardiomegaly. The vertebral heart score is 9.5 vertebrae, which is higher than normal (upper limit of normal is 8 vertebrae). The pulmonary vasculature is prominent and a mild, diffuse bronchointerstitial pattern is present, consistent with mild cardiogenic pulmonary edema. (101% original size)

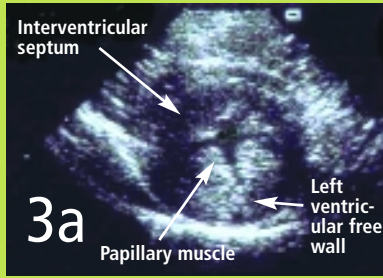


**Normal.** Lateral radiograph of the thorax of a normal cat for comparison. The cardiac silhouette is normal in size. The pulmonary parenchyma and vasculature are also normal. The vertebral heart score is 7.7, which is within normal limits. (119% original size)

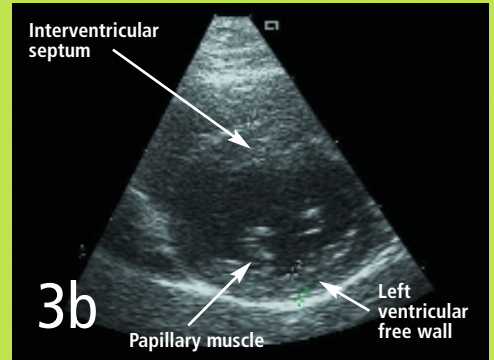


**Normal.** Dorsoventral radiograph of the thorax of a normal cat for comparison. The cardiac silhouette is normal in size, occupying less than two thirds of the thoracic width. The pulmonary parenchyma and vasculature are also normal. (100% original size)

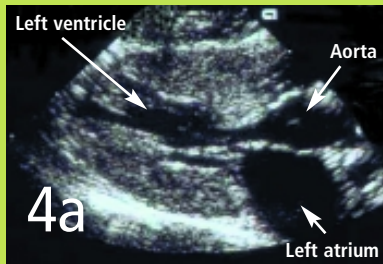
All echocardiograms are shown at their original size.



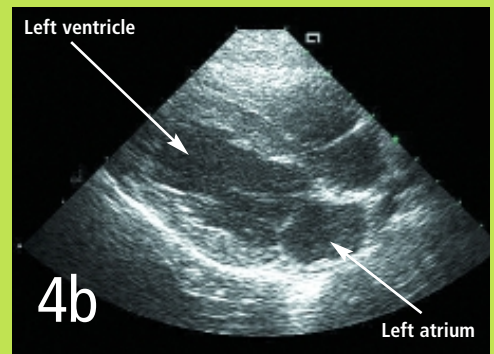
**Enlarged.** Right-sided, short-axis echocardiogram showing concentric hypertrophy of the left ventricular walls. The interventricular septum focally measured 6.8 mm, and the left ventricular free wall measured 6.5 mm in diastole (normal, < 5.5 mm). Hypertrophy is also present in the papillary muscles. In the absence of hypertension and hyperthyroidism, these findings are consistent with hypertrophic cardiomyopathy.



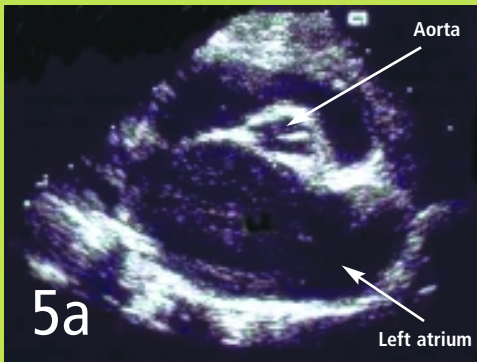
**Normal.** Right-sided, short-axis echocardiogram of a normal cat for comparison. The interventricular septum measured 5.0 mm, and the left ventricular free wall measured 3.5 mm in diastole, indicating normal left ventricular wall thicknesses (normal, < 5.5 mm). The papillary muscles are also of normal size.



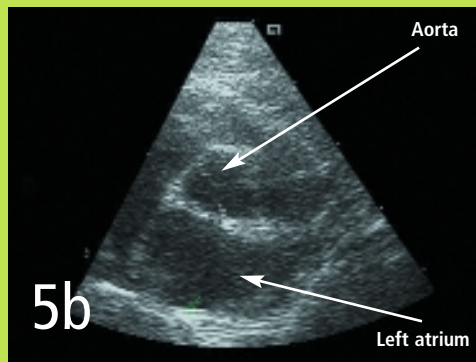
**Enlarged.** Right-sided, long-axis echocardiogram showing concentric hypertrophy of the left ventricular walls. In the absence of hypertension and hyperthyroidism, this finding is consistent with hypertrophic cardiomyopathy.



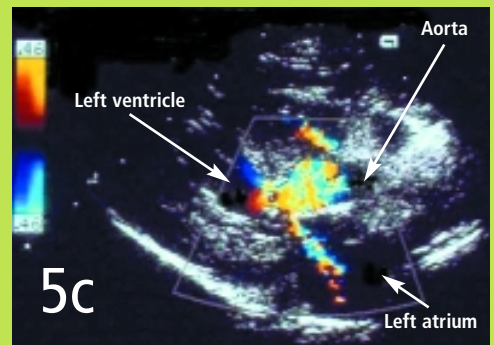
**Normal.** Right-sided, long-axis echocardiogram of a normal cat for comparison. Left ventricular wall thickness is normal.



**Enlarged.** Right-sided, short-axis echocardiogram showing severe left atrial enlargement. The left atrial-to-aortic ratio is 3.1, which indicates severe left atrial enlargement (normal ratio, < 1.5).



**Normal.** Right-sided, short-axis echocardiogram from a normal cat for comparison. The left atrial-to-aortic ratio of 1.3 is normal and indicates normal left atrial size.



Right-sided, short-axis echocardiogram with color Doppler superimposed. The Doppler signal shows a systolic turbulent jet of left ventricular outflow obstruction and mitral regurgitation. This flow disturbance occurs because of mitral valve systolic anterior motion, which is a common finding in hypertrophic cardiomyopathy.