



## Physiologic Heart Murmur

Evaluation of heart murmurs in cats typically requires echocardiography. This is because there can be several causes of heart murmurs, which include benign (physiologic) causes as well as cardiac disease such as hypertrophic cardiomyopathy, and in most cases, it is not possible to differentiate between the two based on auscultation alone. Additionally, chest x-rays (thoracic radiographs) will typically not show much evidence of cardiac changes until the heart disease is severe.

Dynamic Right Ventricular Outflow Tract Obstruction (DRVOTO) is a common cause of a physiologic heart murmur. DRVOTO accounts for many of the benign heart murmurs in cats. This type of murmur commonly is best heard when the heart rate is elevated, and can even go away when the cat is calm and has a slower heart rate. The murmur occurs during the contraction phase of the heart (systole). During systole, there can be narrowing of the right sided outflow tract – causing turbulent blood flow which results in a heart murmur. Studies evaluating this finding have found no evidence that DRVOTO develops into cardiac disease, and it is therefore considered a benign finding.

Some cats can also have heart murmurs with no evidence of DRVOTO or structural disease. In these cases, the murmur is also considered to be physiologic/benign.