

## Pericardial Effusion

The heart is enclosed with a thin, two-layered membranous sac, the pericardium. When excessive fluid accumulates in this sac, it is known as pericardial effusion. Excess fluid buildup in the pericardial space compresses the heart and compromises its ability to fill properly. Pericardial effusion can cause weakness, collapse, right-sided congestive heart failure (fluid accumulation in the chest or abdomen), and sudden death. Treatment for pericardial effusion usually involves imaging that heart and then manual removal of the fluid by insertion of a long catheter through the chest wall and into the pericardial space under sedation during a procedure termed “pericardiocentesis”. Some patients are cured by a single pericardiocentesis while in others the pericardial fluid returns. If it does return, surgical removal of part of the pericardial sac might be recommended.

There are many causes for pericardial effusion. In dogs the two main categories used to describe causes of pericardial effusion are neoplasia (cancer) and idiopathic (unknown cause). Dr. Atkinson will perform an echocardiogram (heart ultrasound) if pericardial effusion is suspected and note the presence or absence of a mass. Conditions such as bleeding disorders, rupture of cardiac chambers, or fungal disease are rare causes of pericardial effusion. In canine patients with cancerous masses visible, usually one of two tumor types is usually present: hemangiosarcoma or chemodectoma (also termed a heart base mass). Certain breeds, such as Golden retrievers and German Shepherds are more likely to develop hemangiosarcoma. Brachycephalic breeds such as Pugs, Boston Terriers, Boxers, and Bulldogs, are more likely to develop heart base masses. Hemangiosarcoma is an aggressive cancer type and the average life span with treatment is often weeks to months, whereas patients with chemodectomas have a better survival time (often months to years).

In idiopathic pericardial effusion, no cause is visible. One form of cancer, mesothelioma, causes pericardial effusion without a visible mass, mimicking idiopathic pericardial effusion. Or, a cancerous mass may be the cause but it is so small that it is not yet visible on echocardiogram. The most common cause of pericardial fluid in cats is congestive heart failure. In these cases usually only a small volume of pericardial effusion is present, and cardiac medications will typically lead to its resolution.