



## PERICARDIAL EFFUSION

### ABOUT THE DISEASE

**Pericardial effusion** refers to an accumulation of fluid within the pericardium, which is a membranous sac that surrounds the heart. This fluid compresses the heart muscle and interferes with normal filling of blood with each heartbeat. In some circumstances, patients will also develop an abnormal/ irregular heart rhythm (arrhythmia).

If fluid accumulates slowly, the pericardium will stretch and enlarge to accommodate the fluid pressure. In these cases, symptoms may be delayed or absent in the beginning.

If fluid accumulates rapidly, the pericardium does not have time to adapt and causes life-threatening heart failure.

Symptoms can vary considerably but often include lethargy, breathing difficulty, weakness, collapse, or sudden death.

The two main causes of **pericardial effusion** are heart-based tumors (usually malignant) and sometimes heart disease.

### OBTAINING A DIAGNOSIS

A physical examination by a veterinarian may find quiet heart sounds, weak pulses, and/or pale/white gum color.

While these signs are suggestive, an ultrasound of the heart (echocardiogram) is the preferred choice to detect the presence of **pericardial effusion**. However, isolating heart-based tumors are often very difficult.

X-rays (radiographs) can show an enlarged heart with a round appearance, but it is not always definitive.

Additional diagnostics such as electrocardiograms (ECGs) and clotting blood tests are often performed to assess arrhythmias and/or diseases of spontaneous hemorrhage.

Complete blood work and urine testing will provide overall health status to help determine which medications will be appropriate.

### TREATMENT

In most cases, patients can be immediately stabilized, but the success is often short-lived. Frequently, patients will re-develop clinical signs in as little as a day or upwards of a few weeks.

For immediate care, patients require rapid intravenous (IV) fluids to improve blood pressure, and some require arrhythmia medications. The pericardial fluid must be drained from the pericardium using a long thoracic catheter or needle (pericardiocentesis).

A surgery exists called a pericardiectomy that opens and removes a portion of the pericardial sac allowing the fluid to drain into the chest cavity. This is not a cure, but the procedure can often delay the life-threatening symptoms caused by heart compression.

### TIPS FOR SUCCESS

- **Pericardial effusion** often has no cure. and inevitably ends with euthanasia
- Clinical signs are caused by heart compression and some procedures exist to correct or minimize symptoms
- If the patient has been treated, monitor for a recurrence of:
  - Lethargy, weakness, or exercise intolerance
  - Breathing difficulty
  - Collapse or fainting