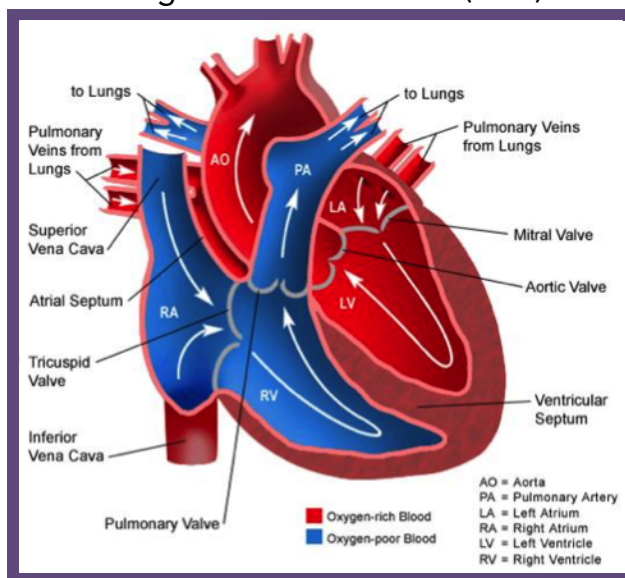


Congestive Heart Failure (CHF)



Flow of blood through a normal heart.

Congestive Heart Failure

Congestive heart failure (CHF) refers to the build-up of fluid within the lungs and body cavities as a result of heart disease. The heart works as a pump to move blood throughout the body, and when heart disease affects the ability to keep moving blood forward, fluid retention typically results. Usually this occurs due to elevated pressures on the left side of the heart, which subsequently increase the blood pressure within the vessels in the lung, leading to the leakage of fluid from the vessels into the airway spaces (this is called pulmonary edema). This fluid accumulation makes it difficult for animals to breathe. Diseases which lead to enlargement of the left side of the heart place animals at risk for the possibility of CHF and pulmonary edema.

The primary drug used to treat CHF is the careful use of a group of drugs called diuretics. These drugs cause the kidneys to excrete salt from the body which in turn causes water loss through the kidneys (into the urine), resulting in a reduction in the overall body water and blood volume. This lowers pressure in the vessels in the lung, thereby decreasing the formation of heart failure fluid. A group of drugs called ACE inhibitors are also prescribed which improve the body's ability to reduce salt and water retention, to reduce high blood pressure, and to limit the effect of hormones that negatively affect the heart.

Although these medications will help alleviate fluid accumulation and improve symptoms, they can affect the kidneys and their function, and overzealous use can lead to dehydration and electrolyte (like salt) imbalances. This can cause lethargy, vomiting and loss of appetite. Therefore, it is important to monitor patients on diuretics and ACE inhibitors with blood tests to monitor kidney function and electrolytes.

Pets diagnosed with CHF may ultimately be placed on multiple medications, and careful monitoring is required to minimize adverse effects. It is important that pets receive the medications as directed, and frequent follow-ups are required to ensure that the medications are controlling the CHF without causing side effects.

Monitoring for Congestive Heart Failure

Sleeping Respiratory Rate - We recommend you become familiar with your pet's sleeping respiratory rate (SRR). If your pet's SRR is elevated they should be evaluated by a veterinarian immediately. Other signs of congestive heart failure

include coughing, collapse, lethargy, and decreased appetite. If you notice any of these signs, please contact us immediately.

Chest X-rays - Chest x-rays are often taken to evaluate for the presence of pulmonary edema. If your pet develops signs of heart failure, this test will likely be recommended.

Bloodwork - Some cardiac medications can adversely affect the kidneys. For this reason, it is important to monitor kidney function with blood tests as new medications are introduced or dosage changes are made.

Echocardiogram - An echocardiogram may also be recommended, based on physical examination findings to assess heart structure and function.

Medications commonly used to treat Congestive Heart Failure

Some of the medications used to treat heart failure (diuretics) cause increased thirst and urination. Please make sure that your pet has access to water at all times and please be aware that your pet may need to go outside more frequently to urinate.

(1) *Furosemide (Lasix)*. Furosemide is a diuretic used to treat heart failure, by removing fluid from the lungs. If your pet starts vomiting, develops diarrhea, or stops eating while receiving this medication, please contact us immediately.

(2) *Enalapril or Benazepril*. These medications are called ACE inhibitors and are used to help furosemide work more effectively. If your pet starts vomiting, develops diarrhea, or stops eating while receiving this medication, please contact us immediately.

(3) *Pimobendan (Vetmedin)*. Pimobendan is a medication that helps the heart pump better. Side effects are rare with this medication, but some dogs develop diarrhea. If you notice any abnormal signs after starting this medication, please contact us.

Fortunately, most dogs feel good as long as their congestive heart failure is controlled. We will work closely with you and your family veterinarian to ensure that your dog gets the best care possible.