

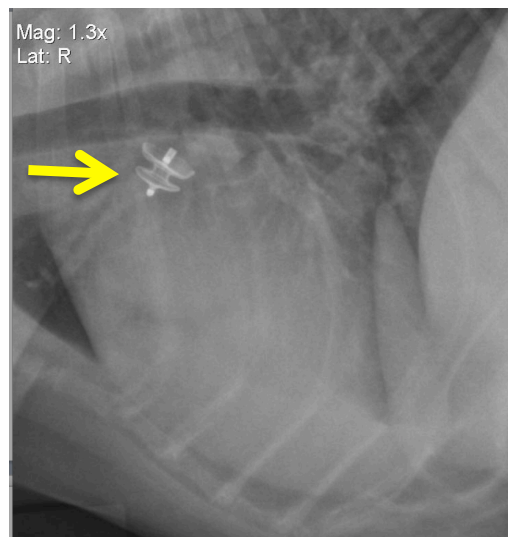
## Patent Ductus Arteriosus

A patent ductus arteriosus (PDA) is one of the most common congenital heart defects diagnosed in dogs. It is relatively uncommon in cats. The ductus arteriosus is a normal structure that helps direct blood away from the non-functioning lungs in a fetus by connecting the pulmonary artery (the main blood vessel sending blood to the lungs) and the aorta (the large artery that pumps blood out to the body). Once an animal is born the ductus arteriosus is no longer necessary and it closes shortly after birth. A PDA is diagnosed when the ductus fails to close normally and blood continues to flow between the pulmonary artery and the aorta. This abnormal blood flow causes a distinctive heart murmur that is often appreciated during early puppyhood when a veterinarian listens to the heart.

The majority of animals with a PDA go on to develop heart enlargement, congestive heart failure (fluid accumulation inside the lungs) and a significantly shortened lifespan if they are not diagnosed and treated. If caught early, however, animals with a PDA can be treated and go on to have a normal lifespan with no long-term complications of their heart disease.

A PDA can be strongly suspected based on the characteristics of a patient's heart murmur. To confirm the diagnosis an echocardiogram (cardiac ultrasound) should always be performed. In addition to establishing the diagnosis, the echocardiogram also allows the cardiologist to rule out any concurrent heart defects, look for evidence of heart enlargement, assess heart function, and make estimations of the PDA size that are important for treatment planning.

There are two potential treatment options to fix a patient's PDA. The first involves an open-chest surgery performed by a veterinary surgeon where a suture is cinched down around the PDA so blood can no longer flow through it. The second option is performed by a veterinary cardiologist. It is a minimally-invasive, catheter-based procedure that feeds a small device known as an Amplatz® Canine Ductal Occluder (ACDO) up to the PDA via an artery in the groin. The device is positioned and deployed within the PDA to stop all blood flow through the structure. Both procedures are considered very successful treatment options that offer an excellent long-term prognosis.



Post-procedure chest x-ray showing successful placement and occlusion of a PDA with an ACDO.