



Always consult with a veterinarian that you feel comfortable with before diagnosing or treating any disease on your own. This information is for reference only.

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## Atrial Septal Defect

### Issue Description

*An atrial septal defect is a defect or hole in the muscular wall (the septum) that separates the right and left atria- 2 of the 4 chambers of the heart.*

### Other Names

ASD

### Causes

The mode of inheritance is not known for ASDs, but many cardiac defects are believed to have a polygenic mode of inheritance, with variable expression. However recent studies suggest a series of single major gene defects may be responsible for inherited heart defects in dogs.

### Symptoms

A small defect will be of no significance to your dog. Dogs with no or mild clinical signs generally have a normal lifespan. Your dog may be more susceptible to respiratory tract infections.

With larger defects however, there will be abnormal blood flow from the higher pressure left side of the heart across the defect to the right side. This causes more work for the right side of the heart, which can eventually lead to right-sided heart failure. Signs may include respiratory difficulties, fainting, tiring with exercise, abnormal cardiac rhythms, abdominal swelling, or sudden death.

### Diagnosis

Often, as with most heart defects, the first indication of a problem is when your veterinarian hears a heart murmur on your pup's first physical examination. There may be exercise intolerance or respiratory difficulties. This usually occurs in an older dog or a young pup with a large defect where congestive heart failure has already developed.

Some low-grade murmurs are "innocent" and disappear by 6 months of age, but if the murmur is significant, your veterinarian will suggest a diagnostic workup to determine the cause. He or she will listen very carefully to your dog's heart to determine the point of maximal intensity of the murmur and when the murmur occurs during the cardiac cycle. Other diagnostic aids include chest x-rays and an electrocardiogram (ECG), which typically show enlargement of the right side of the heart. Further tests such as an ultrasound can be performed to determine the size of the defect.

### Treatment

Many dogs with ASDs do very well. Signs associated with heart disease are treated when and if they develop. Treatment includes medications to support the heart and to reduce congestion in the lungs, a sodium-restricted diet, and exercise restriction.

Surgical closure of the defect is possible in dogs with severe signs, but is not often considered due to the risks and expense associated with open heart surgery.

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