



APONC HEALTH NEWSLETTER

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In this Issue

In June we present an article on canine heart health which contains information on what to do if your dog is diagnosed with a heart murmur, signs of a possible heart issue and different types of heart defects.

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Get a jump on heart murmurs

With an early diagnosis, you can help your dog fight heart disease.

What you should know:

- Early diagnosis is critical
- By the time symptoms appear, heart disease is likely
- Progression to heart failure is possible
- Puppies' heart murmurs usually disappear

What you can do:

- Monitor progression with echocardiograms and Pro-BNP blood tests
- Keep your dog at a healthy weight
- Consider feeding a cardiac prescription diet
- Maintain healthy exercise
- Give medications, if prescribed

A heart murmur adds an extra sound to a heartbeat — introducing a whooshing noise that your veterinarian can hear when they listen to your dog's heart. A murmur can be mild and barely detectable, or quite loud, and possibly even strong enough that your veterinarian can feel it when they put a hand on your dog's chest.

Heart murmurs are graded on a scale from 1 to 5, with 1 being mild, and 5 being very loud and easily detected. They can lead to congestive heart failure, but that's largely dependent upon the dog's overall heart efficiency and how you handle the diagnosis and management.

It's important to understand that most heart murmurs are caught at wellness exams — and this stresses the importance of making and keeping annual appointments.

“Early diagnosis helps us intervene while there's still something we can do about it, whether it's a puppy with a congenital problem, or an older dog with a new murmur,” says Erin Corrigan '94, D.V.M. '98, medical director at VCA Fairmount Animal Hospital in Syracuse, New York.

A dog's normal respiratory rate is 15 to 30 breaths per minute. When a dog is relaxed or sleeping, rates above 35 breaths per minute signify heart problems and warrant an immediate trip to the veterinarian. You can learn how to take your dog's respiratory rate by watching their chest rise and fall for 15 seconds. Count each rise during that period, then multiply that number by four to find out the number of breaths per minute.

Don't wait to start monitoring. By the time you see visible signs of a heart problem — difficulty breathing, rapid breathing, coughing, weakness, lethargy, exercise intolerance and collapsing — your dog may have heart disease.

What are heart murmurs?

There are two broad categories of heart murmurs in dogs:

A **congenital murmur** is present from birth. Congenital murmurs are usually caused by a structural heart defect. Fortunately, most murmurs in young puppies turn out to be benign in nature. These soft, quiet murmurs are called “innocent” or “physiologic” murmurs, and most will be outgrown by 6 months of age.

An **acquired murmur** is one that becomes apparent later in life. Acquired murmurs are usually due to heart valve abnormalities or cardiac muscle disease. Fortunately, most dogs with acquired valvular disease never develop congestive heart failure, as long as they receive proper care.

Acquired murmurs usually involve one of the heart's valves. The most common cause is myxomatous mitral valve degeneration, which is a progressive degeneration of the mitral valve. The cause is unknown, but in Cavalier King Charles Spaniels, a genetic link has been identified. Larger breeds also sometimes develop murmurs associated with cardiomyopathy, which is a term for cardiac muscle disease.

The mitral valve is the valve between the left atrium (upper chamber) and left ventricle (lower chamber) of the heart. Oxygenated blood from the lungs goes into the left atrium, where it is transported to the left ventricle, which then pushes the blood out to the rest of the body via the aorta. The mitral valve's job is to close after each heartbeat and stop blood from flowing backwards into the left atrium. When the mitral valve degenerates, it becomes bumpy and irregular and no longer closes all the way, allowing blood to wash back into the left atrium. Over time, the left atrium will stretch and enlarge due to the increased volume of blood it's trying to manage. The heart becomes less efficient,

making it work harder with every beat. Eventually, fluid backs up into the lungs. When that happens, the dog is in congestive heart failure and will require cardiac medications for the rest of their life.

Monitoring is your best defense

If your veterinarian tells you that they hear a heart murmur, they will likely recommend an echocardiogram to confirm the diagnosis and establish baseline cardiac function. Repeating the echocardiogram annually is a good way to monitor progression. An echocardiogram is non-invasive and usually done without anesthesia or a sedative. It is an important diagnostic test that will help your veterinarian manage your dog's heart health.

A simple blood test, called pro-BNP (precursor of B-type natriuretic peptide), is a useful tool for monitoring as well, as pro-BNP levels rise in the face of cardiac muscle stretch and stress.

It could be many years before your dog's disease progresses to the point of needing cardiac medications, and some dogs might never require them. In the meantime, you can support your dog's long-term cardiac health by managing their weight. Obesity makes it harder to breathe, which strains the heart. It also makes it harder to exercise, and exercise is good for the heart.

Purina's new Pro Plan Veterinary Diet CardioCare is a prescription diet that is backed by research that showed the food slowed the progression of cardiac disease in its early stages. Hill's Prescription Diet Heart Care h/d and Royal Canin Veterinary Diet Early Cardiac are other solid options. These diets are sodium-restricted, which helps prevent fluid accumulation and supports healthy blood pressure — both of which are important for cardiac patients. The nutrients include antioxidants, anti-inflammatories and other things that support cardiac function.

If you are told that your dog has a heart murmur, you should schedule regular follow-ups to monitor its progression, help your dog lose weight through proper diet and exercise, and consider using a prescription diet for canine cardiac health. Just initiating appropriate, targeted dietary intervention could add years to your dog's life. Your attention to cardiac management could be the difference between a dog who ends up with congestive heart failure and one that does not.

Murmurs in puppies usually are not a concern

Most murmurs in puppies are benign, which means they aren't harmful. They are soft, quiet murmurs called "innocent" or "physiologic" murmurs, and most will be outgrown by 6 months of age. If your puppy does not outgrow their murmur, an echocardiogram is recommended to determine the cause, cardiac status and prognosis. This is important whether your dog is intended for breeding or not.

For dogs intended for breeding, the echocardiogram will help determine whether the dog ethically should be used for breeding. For dogs undergoing spay and neuter procedures, the echocardiogram provides your veterinary surgeon with important information regarding the risk of anesthesia.

The ultimate prognosis depends on the type of congenital heart defect. Many puppies will live a normal lifespan. For other puppies, surgery may be an option.

Common congenital heart defects and the breeds most often affected:

- **Pulmonic Stenosis**
 - English Bulldog, Miniature Schnauzer, Mastiff, Samoyed, Beagle, Chihuahua, West Highland White Terrier, Keeshond, Labrador Retriever, Airedale, Boxer, Chow Chow, Newfoundland, Bassett Hound, spaniel breeds
- **Subaortic Stenosis**
 - Newfoundland, Golden Retriever, Rottweiler, German Shepherd Dog, Boxer, Bull Terrier, Samoyed, Great Dane, German Shorthaired Pointer, Mastiff, English Bulldog, Dogue de Bordeaux
- **Patent Ductus Arteriosis (PDA)**
 - Poodle, Maltese, German Shepherd Dog, Collie, Pomeranian, Yorkie, English Springer Spaniel, Sheltie
- **Ventricular Septal Defect (VSD)**
 - Akita, Bassett Hound, Bloodhound, Doberman, English Bulldog, English Springer Spaniel, French Bulldog, German Shepherd Dog, Keeshond, Lakeland Terrier, Old English Sheepdog, West Highland White Terrier
- **Tricuspid Valve Dysplasia**
 - Labrador Retriever, German Shepherd Dog, Great Dane, Weimaraner, Irish Setter, Boxer, Great Pyrenees, Dogue de Bordeaux, Old English Sheepdog
- **Mitral Valve Dysplasia**
 - Bull Terrier, Dalmatian, German Shepherd Dog, Golden Retriever, Great Dane, Mastiff, Newfoundland, Rottweiler

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