

Do-It-Yourself Diagnosing of Congestive Heart Failure in Your Cavalier King Charles Spaniel

(from CavalierHealth.org)



Veterinary cardiologists' current consensus about medicating Cavalier King Charles spaniels with mitral valve disease (MVD) is to wait until the dog enters "congestive heart failure" (CHF), or just "heart failure" (to avoid having to define "congestive"). They tell us Cavalier owners that our dogs with MVD should be brought in and re-examined regularly – be it every six months or as frequently as every three months – so that if and when the dog is on the cusp of CHF, the vet will be ready and able to prescribe a combination of medications – usually a diuretic, an ACE-inhibitor, and pimobendan—immediately.

If it is so important to know exactly when our Cavaliers enter CHF, so the drugs may be given promptly thereafter, then exactly how is CHF diagnosed? Can only a veterinarian make that diagnosis? Do only the vets have the necessary equipment? If so, what will happen to our dog if CHF shows up sometime between those periodic visits to the vet?

We know that vets, especially cardiologists, have some very expensive diagnostic equipment for our dogs' heart problems. They include x-ray machines, Doppler echocardiographs (ultrasounds), and electrocardiograph devices (ECG or EKG), all of which may be used to detect CHF. In addition, the vets have expensive blood tests (cardiac biomarkers) to detect CHF. But what good are all of these tools and equipment if our dog enters CHF between visits to the vet?

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The answer is counting the dog's "respiratory rate", which is something that Cavalier owners can do anytime they are with their dogs. As fancy and complex as all of the cardiologists' electronic devices may be, and as sophisticated as their cardiac biomarkers may be, **the best single means of determining when a Cavalier enters congestive heart failure is when the dog's respiration rate consistently exceeds 30 breaths per minute.**

"Only respiratory rate predicted the presence of CHF... with high accuracy."

Top cardiologists in the UK and USA have concluded that respiration rate counts are more accurate in predicting the onset of CHF than any other means. In [a 2011 study at Ohio State University's veterinary school](#), Dr. Karsten Schober and a team of researchers compared the respiratory rates of 45 dogs with MVD (including 13 CKCSs) with their cardiac biomarkers and their Doppler echocardiographic indices, and they found that "Only respiratory rate predicted the presence of CHF... with high accuracy." They concluded that **"home monitoring of respiratory rate is simple and very useful in the assessment of CHF in dogs with... MVD."**

In [a 2012 study conducted by an international team of cardiologists](#), they found that "apparently healthy adult dogs generally have mean sleeping respiratory rates [less than] 30 breaths/minute and rarely exceed this rate at any time."

As a result of these studies, several cardiologists are recommending that owners become familiar with their MVD-affected Cavaliers' normal resting breathing rate and effort, and keep logs of their sleeping respiratory rates (in order) to establish a baseline rate for each dog, and report when the dogs' rates increase to consistent rates approaching or above 30 to 40 breaths per minute. For example, the University of Pennsylvania's veterinary school advises [in a handout available on-line](#):

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“When your dog is at rest, watch their sides rise and fall as they breathe normally. One rise and fall cycle is equal to one breath. Count the number of breaths they take in 15 seconds, then multiply this number by 4 to get total breaths per minute. For example, if you count 8 breaths in 15 seconds, that is equal to 32 (8 x 4) breaths per minute. A normal dog at rest should have a respiratory rate less than 40. If you notice this number increasing consistently, or notice an increase in the effort it takes to breathe, contact your veterinarian.”

The vet school at Texas A&M University also has [published a handout](#) (below) explaining how to keep track of dogs’ respiratory rates.

You Tube An excellent [YouTube video](#) shows when and how every Cavalier owner can count the breaths of their MVD-affected dogs while they are sleeping or at rest.

How often should I count the resting/sleeping breathing rate in my pet?
Typically your veterinarian will have you count the breathing rate once per day for a week when you are learning so that you get comfortable doing it. This way you and your veterinarian can also learn your pet's actual resting/sleeping breathing rate.

If your pet has asymptomatic heart disease:
Home breathing rates need not be evaluated in all pets with asymptomatic heart disease. Your veterinarian will tell you if and when it is time to start doing this in your pet. In general it is most important to start in pets with advanced asymptomatic heart disease that have a high risk of developing heart failure.

within the next year. In this case breathing rates are typically recorded once or twice per week although sometimes your veterinarian may ask you to do it once per day.

If your pet has heart failure:
Home breathing rate should be evaluated once per day in all pets that have heart failure and are now taking medications such as furosemide.

Where can I find free smartphone apps for home breathing rate?
There are free smartphone apps for the iPhone, Droid, BlackBerry that can help you keep track of your dog's home breathing rate. Search the app store for 'your dog's heart resting breathing rate.'

Client Information Series

Measuring Your Pet's Breathing Rate

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Bottom Line: Ask your Cavalier’s cardiologist ([click here for a list of Board Certified cardiologists](#)) whether and how you should monitor your dog’s respiratory rate for congestive heart failure.

From CavalierHealth website: http://www.Cavalierhealth.org/blog.htm#June_18,_2014

Search your smartphone’s app store for “resting respiratory rate for dogs”.