

HOT TOPIC

Dietary management of myxomatous mitral valve disease (MMVD)

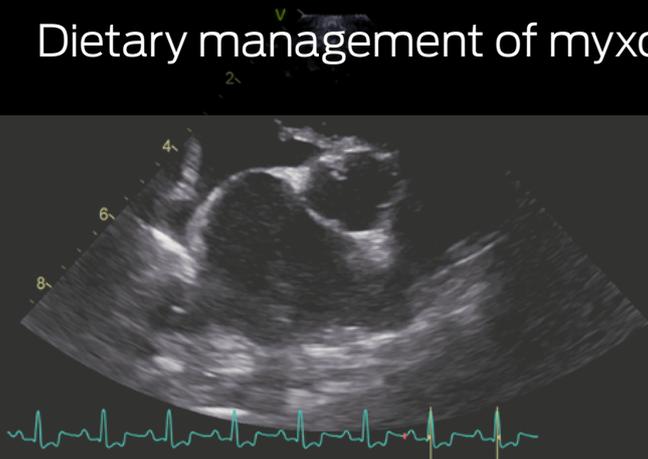


Image courtesy of: Rebecca L. Stepien, DVM, MS, DACVIM (Cardiology) University of Wisconsin, USA

In focus

Myxomatous mitral valve disease (MMVD) is the most common heart disease in dogs. Learn about specific nutrients that play key roles in cardiac health for dogs with MMVD.

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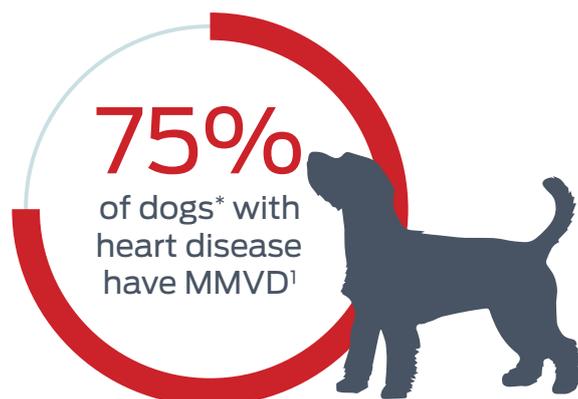
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How common is MMVD in dogs?

Heart disease affects one in ten canine patients seen in primary care practice. The most common cause of acquired canine heart disease is myxomatous mitral valve disease (MMVD).

Most affected dogs are older, smaller breeds weighing less than 20 kg, but larger dogs can also be affected.^{1,2}

Dogs with MMVD appear healthy until they reach later stages of disease. Early stage MMVD is typically recognized when the characteristic left apical heart murmur is auscultated during a routine veterinary exam.



How can nutrition help dogs with MMVD?

A healthy mammalian heart relies mostly on long-chain fatty acids for energy production by cardiac mitochondria.

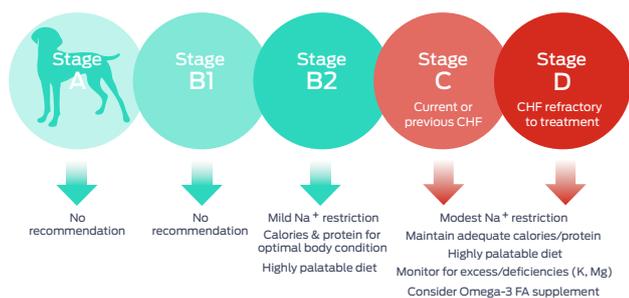


Studies show that dogs with early stage MMVD have less efficient cardiac energy production, and increased oxidative stress and inflammation.³

So, in addition to the complete and balanced nutrition that all pets need, nutrients that aid mitochondria, support energy metabolism, help address oxidative stress and inflammation, and support overall heart health are also important for dogs with MMVD.

Are there guidelines for nutritional management of MMVD?

The American College of Veterinary Internal Medicine (ACVIM) consensus guidelines classify dogs with MMVD into one of four stages, based on clinical findings and echocardiographic evaluation. The severity of heart changes and clinical signs at each stage are linked with recommendations for treatment and nutritional management.¹

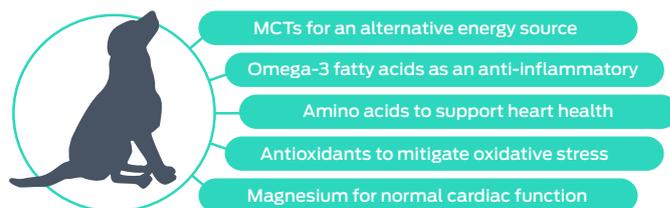


- In stage B2, recommendations include mild sodium restriction to reduce cardiac workload, and adequate protein and calorie intake to maintain optimal body weight and condition.

- Once dogs experience congestive heart failure in Stages C or D, recommendations aim to reduce the workload of the failing heart and manage clinical signs by:
 - moderately restricting sodium intake to mitigate fluid accumulation
 - maintaining adequate protein and calorie intake to reduce risks for cachexia
 - monitoring potassium levels due to losses from diuretic medications
 - supplementing omega-3 fatty acids to reduce inflammation

Can nutritional intervention help dogs in earlier stages of MMVD?

The ACVIM recommendations are based on managing clinical signs and complications induced by MMVD. However, new research suggests that appropriate nutrition may benefit the heart itself by providing alternative energy substrates and other supportive nutrients before the heart fails.⁴⁻⁸



A specific cardiac protection blend of nutrients, formulated to address metabolomic and transcriptomic changes in canine MMVD, demonstrated efficacy during a 6-month internal study. Dogs with stage B1 and B2 MMVD may have improved heart function when fed the specific nutrient blend, which includes:

- medium-chain triglycerides (MCTs) which provide alternate energy sources as medium-chain fatty acids and ketone bodies
- long-chain omega-3 fatty acids (EPA and DHA) to help reduce inflammation
- key amino acids—taurine, methionine and lysine—to support heart health
- vitamin E and other antioxidants to reduce oxidative stress
- magnesium and other minerals that are important for cardiac health and function

References

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