

EPIC CHANGES EVERYTHING

AMERICAN COLLEGE
OF VETERINARY INTERNAL
MEDICINE (ACVIM)
**RELEASES 2019
GUIDELINES FOR HEART
DISEASE IN DOGS**

Treatment with VETMEDIN® at preclinical
Stage B2 is now recommended by leading
canine cardiologists

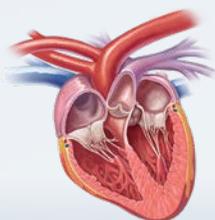


Boehringer
Ingelheim



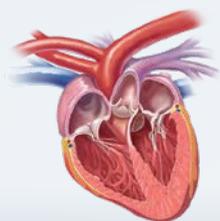
ACVIM CONSENSUS GUIDELINES FOR THE DIAGNOSIS AND THERAPY OF CHRONIC VALVULAR HEART DISEASE IN DOGS[†]

Stages of myxomatous mitral valve disease (MMVD) – ACVIM 2019[†]



STAGE A

No disease is present at this stage.



PRECLINICAL HEART DISEASE

STAGE B1

Murmur detected but no radiographic or echocardiographic evidence of cardiac remodeling or cardiac remodeling is present **but does not meet the criteria[†] sufficient to recommend therapy.**

No clinical signs of heart failure.



UPDATED

STAGE B2

Murmur detected with radiographic or echocardiographic evidence of cardiac remodeling that **meets the criteria[†] sufficient to recommend therapy.**

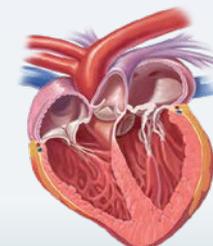
No clinical signs of heart failure.



UPDATED

STAGE C

Structural abnormality and **current or previous clinical signs of heart failure.**



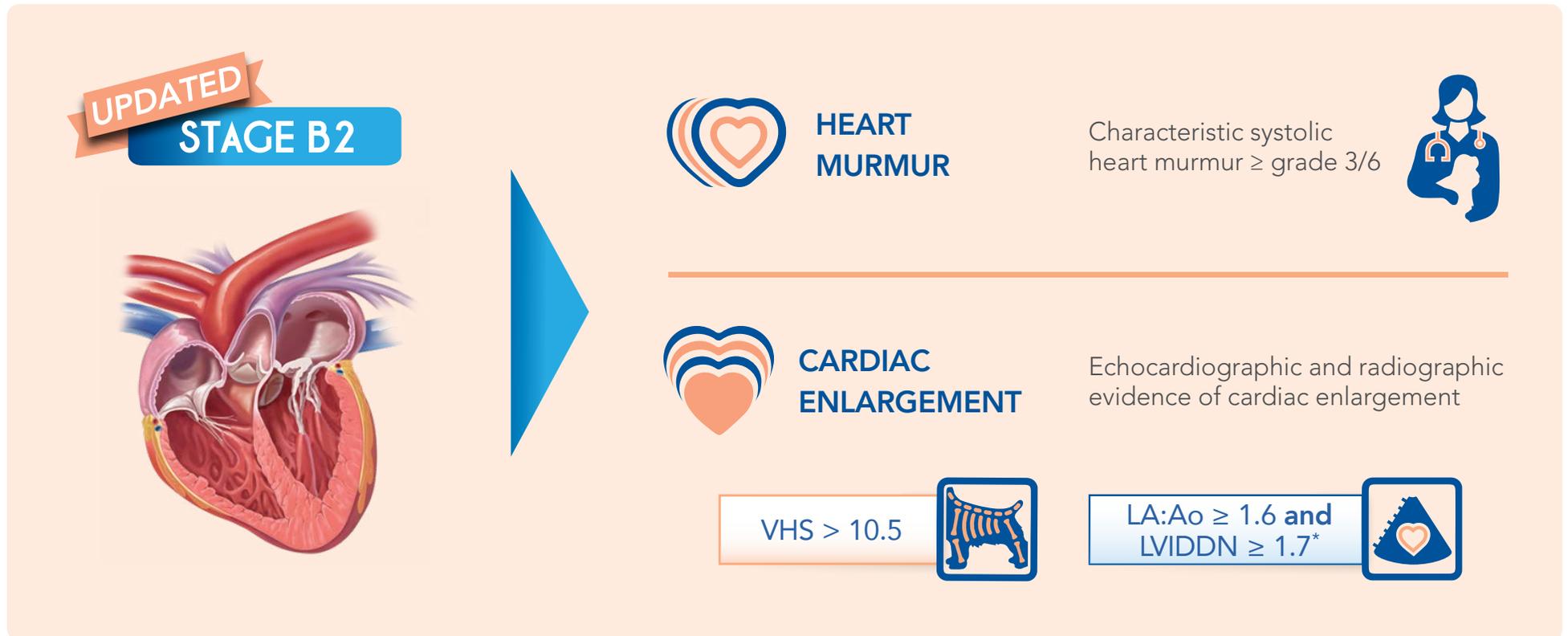
CLINICAL HEART FAILURE (CHF)

STAGE D

End-stage heart disease that fails to respond to standard treatment.



TREATMENT OF PRECLINICAL MMVD WITH VETMEDIN[®] IS NOW RECOMMENDED BY ACVIM

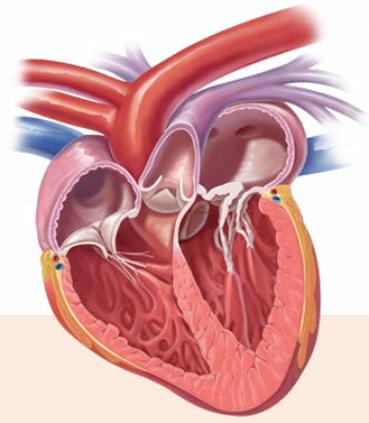


* Ideally, all of these criteria should be met, but in the absence of echocardiographic measurements, clear radiographic evidence of cardiomegaly. e.g., general breed VHS \geq 11.5, or a comparable breed-adjusted VHS measurement can be used to identify Stage B2.

UPDATED FOR
2019 GUIDELINES

STAGE B2

DIAGNOSIS AND MANAGEMENT

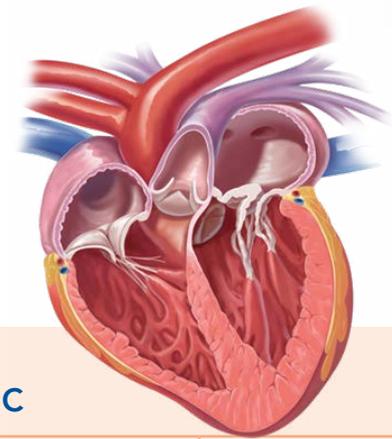


 <p>AUSCULT</p>	<p>MURMUR INTENSITY ≥ 3/6 MURMUR</p>																	
 <p>SCREEN</p>	<p>EVIDENCE OF CARDIAC ENLARGEMENT</p> <table border="1"> <tr> <td> <p>Breed-adjusted radiographic vertebral heart score (VHS) > 10.5</p> </td> <td colspan="2" rowspan="2"> <p>Ideally, all of these criteria should be met, but in the absence of echocardiographic measurements, clear radiographic evidence of cardiomegaly, e.g., general breed VHS ≥11.5, or a comparable breed-adjusted VHS measurement can be used to identify Stage B2</p> </td> </tr> <tr> <td> <p>Echocardiographic evidence of left atrial and left ventricular enlargement</p> <ul style="list-style-type: none"> • Left atrium on aorta ratio (LA:Ao) in the right-sided short axis view in early diastole ≥ 1.6 • Left ventricular internal diameter in diastole, normalised for body size (LVIDDN) ≥ 1.7 </td> </tr> </table>			<p>Breed-adjusted radiographic vertebral heart score (VHS) > 10.5</p>	<p>Ideally, all of these criteria should be met, but in the absence of echocardiographic measurements, clear radiographic evidence of cardiomegaly, e.g., general breed VHS ≥11.5, or a comparable breed-adjusted VHS measurement can be used to identify Stage B2</p>		<p>Echocardiographic evidence of left atrial and left ventricular enlargement</p> <ul style="list-style-type: none"> • Left atrium on aorta ratio (LA:Ao) in the right-sided short axis view in early diastole ≥ 1.6 • Left ventricular internal diameter in diastole, normalised for body size (LVIDDN) ≥ 1.7 											
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 <p>MANAGE</p>	<p>RECOMMENDATIONS FOR MANAGEMENT AT STAGE B2</p> <table border="1"> <thead> <tr> <th>TREATMENT</th> <th>STRENGTH OF RECOMMENDATION</th> <th>LEVEL OF EVIDENCE</th> </tr> </thead> <tbody> <tr> <td> <p>VETMEDIN® (0.25–0.3 mg/kg twice daily)</p> </td> <td> <p>Strong</p> </td> <td> <p>Strong</p> </td> </tr> <tr> <td> <p>ACE inhibitor (ACEi)</p> </td> <td> <p>Moderate</p> </td> <td> <p>Weak</p> </td> </tr> <tr> <td> <p>Spironolactone</p> </td> <td> <p>Not recommended</p> </td> <td> <p>Weak</p> </td> </tr> <tr> <td> <p>Diet</p> <ul style="list-style-type: none"> • Mild dietary sodium restriction • Highly palatable diet for maintaining optimal body condition </td> <td> <p>Moderate</p> </td> <td> <p>Weak</p> </td> </tr> </tbody> </table>			TREATMENT	STRENGTH OF RECOMMENDATION	LEVEL OF EVIDENCE	<p>VETMEDIN® (0.25–0.3 mg/kg twice daily)</p>	<p>Strong</p>	<p>Strong</p>	<p>ACE inhibitor (ACEi)</p>	<p>Moderate</p>	<p>Weak</p>	<p>Spironolactone</p>	<p>Not recommended</p>	<p>Weak</p>	<p>Diet</p> <ul style="list-style-type: none"> • Mild dietary sodium restriction • Highly palatable diet for maintaining optimal body condition 	<p>Moderate</p>	<p>Weak</p>
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UPDATED FOR
2019 GUIDELINES

STAGE C

MANAGEMENT GUIDELINES



MANAGE

RECOMMENDATIONS FOR HOME-BASED MANAGEMENT OF STAGE C

PHARMACEUTICAL TREATMENT	STRENGTH OF RECOMMENDATION	LEVEL OF EVIDENCE
Continue VETMEDIN® 0.25–0.3 mg/kg orally every 12 hours	Strong	Strong
Oral furosemide 2.0 mg/kg every 12 hours, or as needed to maintain patient comfort	Strong	Moderate
Spirolactone 2.0 mg/kg orally every 12–24 hours	Strong	Moderate
Continue or start ACEi (e.g., enalapril or benazepril) 0.5mg/kg every 12 hours	Strong	Weak
Measurement of serum creatinine, blood urea nitrogen, and electrolyte concentrations 3–14 days after initiating furosemide therapy	Strong	Weak
ADDITIONAL CONSIDERATIONS		
Home monitoring of weight, appetite, respiratory rate, heart rate	Strong	Based on expert opinion
Respiratory rate best indicator for impending clinical decompensation	Strong	Moderate
Surgical repair of mitral valves (in centres with low complication rates)	Strong	Moderate

2019 GUIDELINES UPDATE SUMMARY

VETMEDIN® is recommended from Stage B2

- The EPIC Study is the largest prospective, randomised clinical trial in small animal medicine and assessed the effect of **preclinical treatment with VETMEDIN®**.
- New data, including the groundbreaking results of the Boehringer Ingelheim supported EPIC (Evaluation of imobendan In dogs with Cardiomegaly) Study,² the largest veterinary cardiology study to date, have prompted the ACVIM to release **updated consensus guidelines for the diagnosis and therapy of chronic valvular heart disease in dogs**.
- This includes a revised staging system, **updating Stage B2**, and provides recommendations for **preclinical treatment with VETMEDIN®** at this stage when specific criteria have been met.^{1,2}



ACCESS THE NEW 2019 ACVIM CONSENSUS PAPER:
VISIT: [BIT.LY/ACVIMGUIDELINES_2019UPDATE](https://bit.ly/ACVIMGUIDELINES_2019UPDATE)

LEARN MORE ABOUT THE EPIC STUDY.
VISIT: WWW.EPICTRIAL.COM

References: 1. Keene BW, Atkins CE, Bonagura JD, et al. ACVIM consensus guidelines for the diagnosis and treatment of myxomatous mitral valve disease in dogs [published online ahead of print April 11, 2019]. *J Vet Intern Med.* doi:10.1111/jvim.15488. 2. Boswood A, Häggström J, Gordon SG, et al. Effect of pimobendan in dogs with preclinical myxomatous mitral valve disease and cardiomegaly: the EPIC Study—a randomized clinical trial. *J Vet Intern Med.* 2016;30:1765–1779.