**VERTEBRAL LEFT ATRIAL SIZE (VLAS)**

**TO IDENTIFY STAGE B2 MYXOMATOUS MITRAL VALVE DISEASE**

The VLAS measures the width of the left atrium.

1. Obtain a lateral thoracic radiograph ensuring the thoracic vertebrae T4 to T8 are clearly visible and delineated.

2. Use a caliper to measure a line from the centre of the most ventral aspect of the caudal vena cava to the most caudal aspect of the left atrium where it intersects with the dorsal border of the caudal vena cava.

3. Transfer the caliper measurement to produce a line of equal length beginning at the cranial edge of T4 and extending caudally just ventral to the vertebral canal.

4. The VLAS is defined as the length of the second line expressed in vertebral body units to the nearest 0.1 vertebra.

**VLAS CALCULATION METHOD TO ASSESS FOR LEFT ATRIAL ENLARGEMENT**

**The following diagnostic algorithm has been developed by the Australasian Veterinary Cardiology Advisory Board to assist in the diagnosis of Stage B1 and Stage B2 MMVD.**

**Suspected MMVD**

≥ 6 y.o. with left apical systolic murmur (≥ 3/6)

**Refer to cardiologist for full assessment**

- Radiography
- Echocardiography
- Blood pressure

**If cardiology referral unavailable or declined**

- Thoracic radiography – vertebral left atrial size (VLAS)

**STAGE A**

- No disease is present

**STAGE B1**

- Likely Stage B1
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES

- New or cardiac remodelling is present
  - No clinical signs of heart failure.
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES

**STAGE D**

- Likely Stage D
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES
  - NEW
  - UPDATED
  - FOR 2019 GUIDELINES

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

**ACVIM staging of MMVD**

- **STAGE A**: No disease is present at this stage. No clinical signs of heart failure.
- **STAGE B1**: Likely Stage B1. Murmur detected but no radiographic, echocardiographic, or clinical evidence of cardiac remodelling that requires or is sufficient to recommend therapy.
- **STAGE B2**: Likely Stage B2. Murmur detected with radiographic or echocardiographic evidence of cardiac remodelling that requires or is sufficient to recommend therapy.
- **STAGE C**: Likely Stage C. Structural abnormality and/ or presence of clinical signs of heart failure.
- **STAGE D**: Likely Stage D. End-stage heart disease that fails to respond to standard treatment.

**TREATMENT**

- Treatment of dogs with Stage B2 Myxomatous Mitral Valve Disease (MMVD) with Vetmedin® can delay the onset of Congestive Heart Failure (CHF) and extend survival.

- The following diagnostic algorithm has been developed by the Australasian Veterinary Cardiology Advisory Board to assist in the diagnosis of Stage B1 and Stage B2 MMVD.

**REFERENCES**


**Veterinary Cardiology Advisory Board**

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**The Australasian Veterinary Cardiology Advisory Board**

The Australasian Veterinary Medicine Cardiology Advisory Board was established to assist the Australasian Veterinary Cardiology WG to develop guidelines to assist professionals in determining the stage of MMVD in dogs. The WG secretariat would like to thank all the members of the Board for their time, commitment and expertise.

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