

### **Orthopedic Foundation for Animals**

2300 E Nifong Blvd, Columbia, MO 65201-3806 Phone: (573) 442-0418; Fax: (573)875-5073 www.offa.org, A not-for-profit organization

# **Application for Advanced Cardiac Database**

Performed in association with the Orthopedic Foundation for Animals (OFA) and the American College of Veterinary Internal Medicine-Cardiology (ACVIM)



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Genetic Test Status: Test									
Negative □ Abnormal: Heterozygous □ Homozygous □									
EXAMINATION FINDINGS									
AUSCULTATION									
Normal □ Abnormal □ Arrhythmia □									
Murmur Grade: I □ II □ III □ IV □ V □ VI □									
PMI: Left ☐ Right ☐ Base ☐ Apex ☐									
Timing: Systolic ☐ Diastolic ☐ Continuous ☐									
Extra Sounds: Click ☐ Gallop ☐ Split S1☐ Split S2☐									
ECHOCARDIOGRAM □ NOT PERFORMED									
RA: Normal ☐ Enlargedmm RV: Normal ☐ enlargedmm									
TV: Normal □ Abnormal: Mild □ Moderate □ Severe □									
TR: None ☐ Trivial ☐ Mild ☐ Moderate ☐ Severe ☐ Velm/s									
LA: Normal ☐ Enlarged: Mild ☐ Moderate ☐ Severe ☐									
MV: Normal □ Abnormal: Mild □ Moderate □ Severe □									
MR: None ☐ Trivial ☐ Mild ☐ Moderate ☐ Severe ☐ Velm/s									
LV: Normal ☐ Enlarged: Mild ☐ Moderate ☐ Severe ☐ LVIDd:mm MM ☐ 2D ☐ LVIDs:mm MM ☐ 2D ☐									
<b>SF</b> :% (MM ☐ 2D ☐) <b>EF</b> :% (MM ☐ 2D ☐ volumetric)									
ESVI:mL/m² Sphericity Index EPSS:mm									
IVS: $IVSd$ mm       Normal $\square$ Abnormal $\square$ (MM $\square$ 2D $\square$ )         PW: $PWd$ mm       Normal $\square$ Abnormal $\square$ (MM $\square$ 2D $\square$ )									
PapMuscle: Normal ☐ Abnormal ☐									
LVOT Normal ☐ Abnormal ☐ Ridge ☐ Other									
AoV: Normal □ Abnormal: Mild □ Moderate □ Severe □									
Ao Diameter:mm									
<b>AoV/LVOT Vel:</b> Normal ☐ Abnormal ☐ ( <i>Apical</i> ☐ <i>Subcostal</i> ☐)m/s									
<b>DLVOTO</b> : □ <i>Vmaxm/s</i> SAM: □									
AR: None ☐ Mild ☐ Moderate ☐ Severe ☐m/s									
<b>RVOT</b> : Normal  Infundibular narrowing  Vmax (if abnormal)m/s									
DRVOTO: ☐ <i>Vmaxm/s</i>									
PV: Normal ☐ Abnormal ☐ Mild ☐ Moderate ☐ Severe ☐									
PV Vel: Normal ☐ Abnormal ☐ (Right ☐ Left apex ☐)m/s									

□ normal □ abnormal □ not performed  Date: Method:  HR:bpm Rhythm:  HOLTER ECG
HR:bpm Rhythm:
HOLTER ECG
Date performed: $\square$ pending $\square$ not performed
normal: $\square$ equivocal: $\square$ abnormal: $\square$ (see Holter report for details
<b>EXAMINATION RESULTS</b>
□ NORMAL
□ No evidence for congenital heart disease
No evidence for adult onset inherited heart disease  Valid for 1 year (In Dobermans and Boxers preliminary clearance) only. Holter required within 3 months of today for final clearance)
☐ EQUIVOCAL
Congenital or adult onset inherited heart disease cannot be definitively diagnosed or excluded
☐ ABNORMAL (evidence of congenital or adult onset inherited heart disease,
Diagnosis: ☐ ARVC ☐ ASD ☐ DCM ☐ HCM ☐ MVD ☐ MMVD ☐ PDA ☐ PS ☐ SAS/AS ☐ TVD ☐ VSD ☐ Other
<b>Severity:</b> ☐ Mild ☐ Moderate ☐ Severe
Comments (additional findings which would not result in a final abnormal diagnosis):

Diplomate ACVIM (American College of Veterinary Internal Medicine – Cardiology), or Diplomate ECVIM (European College of Veterinary Internal Medicine – Cardiology)

Signature

#### **OFA Advanced Cardiac Clearance Database Fees**

•	Animals over 12 months of age \$15.00	
•	Litter of 3 or more submitted together \$30.00	
	Kennel Rate—Minimum of 5 individuals submitted as a group, own	ie

co-owned by same person. \$7.50 ea.

• Submission of non-passing results in the open database:

NO CHARGE

# **Credit Card Payment Information**

Payments can be made by check, money order (U.S. funds drawn on a U.S. bank), cash, Visa, or Mastercard, payable to the Orthopedic Foundation for Animals. To pay by credit card, fill out the following information.

Visa/Master Card Number (1 digit per cell, no dashes)

Cardholder name	:					
Exp. (MMIYY)	CVV					

## Abbreviations of diseases listed on front page

**ARVC:** Arrhythmogenic right ventricular cardiomyopathy

**ASD:** Atrial septal defect

**DCM:** Dilated cardiomyopathy

**HCM:** Hypertrophic cardiomyopathy

MMVD: Myxomatous mitral valve disease

**PDA:** Patent ductus arteriosus

**PS:** Pulmonic stenosis

**SAS/AS:** Subaortic stenosis/aortic stenosis

**TVD:** Tricuspid valve dysplasia **VSD:** Ventricular septal defect

#### Purpose of cardiac health screening in dogs

- · To identify dogs free from any cardiac abnormality
- To ascertain the prevalence of heart murmurs, abnormal rhythms or specific heart defects in specific breeds
- To confirm the cause of heart murmurs or abnormal rhythms by further investigation of affected animals
- To collate data for investigation of a possible genetic basis to a specific heart problem in a given breed
- To advise the owner, breeder and dog's veterinarian when an abnormality has been identified and recommendations about any further investigation, if indicated

### Methods of heart testing

#### 1. Auscultation: examination with a stethoscope

Auscultation allows detection of heart murmurs, the specific timing and localization as well as grading of intensity (grade 0 - 6). The heart rhythm is also assessed during auscultation. Heart murmurs occur with many congenital heart defects and adult onset inherited cardiac diseases such as myxomatous mitral valve disease (MMVD). Some common forms of congenital heart disease include subaortic stenosis (SAS), patent ductus arteriosus (PDA), pulmonic stenosis (PS) and tricuspid valve dysplasia (TVD). Abnormal heart rhythms may occur in animals without murmurs in dilated cardiomyopathy (DCM) or arrhythmogenic right ventricular cardiomyopathy (ARVC). It may be difficult for the veterinarian to detect a soft murmur in a noisy room or in a dog that is squirmy. Some murmurs may change intensity at different heart rates, after exercise or excitement.

#### 2. Electrocardiogram (ECG)

This is always indicated if an abnormal heart rhythm is detected. It is most often used to screen certain breeds of dogs for DCM or ARVC.

### 3. Echocardiogram (with Doppler)

Echocardiography allows visualization the heart chambers and valves in real-time. M-mode is used for measurements to be taken and compared with normal values for breed or size of dog. Doppler is required to confirm the diagnosis of a specific type of congenital defect and to identify mildly versus severely affected animals. In some cases, it is difficult to be certain whether a dog has mild disease or an "innocent" murmur.

### 4. Holter ECG (separate report required)

This test is indicated in breeds predisposed to DCM or arrhythmogenic right ventricular cardiomyopathy. Affected dogs may display ventricular arrhythmias early in the disease process, when the echocardiogram does not reveal any abnormalities yet. A Holter (24h ECG) allows detection of infrequent, but significant arrhythmias.

### For final clearance a 24 hour Holter is required in Boxers and Doberman Pinschers.

Adult onset of inherited heart disease can appear at any age of an adult dog or cat. Testing for DCM, ARVC, MMVD and HCM is thus only valid for 1 year, after which time retesting is required to screen for onset of new abnormalities.