

To All Bouvier Fanciers,

The Bouvier Health Foundation has been collaborating with Principle Investigator Dr. Joshua A. Stern PhD, DVM, ACVIM (Cardiology) to procure a study to determine the genetics behind Subvalvular Aortic Stenosis (SAS) in Bouviers des Flandres. Dr. Stern is a Board-certified Cardiologist at the University of California Davis, School of Veterinary Medicine, and has a special interest in the genetics of inherited heart diseases.

Attached with this introduction is an outline of what is needed from the fancy to complete this study. This will be an enormous accomplishment, and will allow the breed to move forward in our goal to reduce the incidence of SAS.

If you own, or know of, an affected pure-bred Bouvier, we highly encourage owners to submit samples to this study. Security protocols are in-place to ensure that no dog's names (or owner's names) are released to the public. Owners with non-affected Bouviers are still encouraged to support this study by submitting control samples or by donating funds to this project – more information on how you can make a financial contribution will be forthcoming.

With your help, we can improve the lives of all of our furry family. Thank you for your continued support and love of our magnificent breed!

Sincerely,

Bouvier Health Foundation



Whole Genome Sequencing of Subvalvular Aortic Stenosis (SAS) in Bouvier des Flandres at UC Davis



Dr. Joshua Stern Cardiac Genetics Laboratory is conducting a Subvalvular Aortic Stenosis (SAS) study in Bouvier des Flandres. Dr. Stern's lab focuses on the identification of mutations associated with inherited heart disease and he has a particular interest in subaortic stenosis.

Currently, we are in the sample collection phase for this study. 24 SAS affected and 48 control Bouvier samples are required to conduct this study. Dr. Stern will provide echocardiograms at no cost through his laboratory at UC Davis. For each sample we will need the following:

- 1) 3-5ml of whole blood in an EDTA tube (purple top)
- 2) A copy of the echocardiogram report from a board certified cardiologist
- 3) A copy of the 3 generation pedigree
- 4) Filled out enrollment form

DNA will be extracted from whole blood and stored in Dr. Stern's Cardiac Genetics Laboratory. If you have questions regarding submission of a blood sample please contact sterngenetics@ucdavis.edu.

We have proposed a GoFundMe page to raise money for the SAS project. The GFM page will reach Bouvier breeders all over the world. We talked to several different breed clubs that have done GFM pages and they raised anywhere from \$20,000 to \$45,000 for health related research for their breed

Enrollment forms have been forwarded from Dr. Stern, and are included. Forms can be downloaded from the BHF website, and Bouvier Club Facebook pages. If you have any concerns or questions please contact sterngenetics@ucdavis.edu



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October 6, 2016

Confidentiality Statement for canine and feline research sample submission

All information and samples sent for inclusion in genetic research studies by Dr. Joshua Stern are kept confidential. Participation is completely voluntary and at no time will dog identification, participating kennel names or owners be revealed in any way. The goal of our research studies is to identify genetic markers and facilitate reduction in disease prevalence through genetic testing ability. Should a genetic test arise from the study that you have elected to participate in, results will be available for your samples at your request. All samples are numerically identified in our system and will only be represented by unique numeric identity in any publications or presentations.

Our laboratory and investigators have worked with genetic studies and breeders on many projects. We take the confidentiality of our research supporters very seriously and thank you for your participation. Specific questions regarding sample handling can be directed to sterngenetics@ucdavis.edu

Best

A handwritten signature in blue ink, appearing to read "Joshua Stern".

Joshua Stern, DVM, PhD, Diplomate ACVIM (Cardiology)

Joshua Stern, DVM, PhD, Diplomate ACVIM (Cardiology)
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2108 Tupper Hall, 258 CCAH
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Stern's Laboratory Sample Submission Information

Sample submission requirements:

- 1.) An EDTA blood sample (2-3ml in a purple top tube)
- 2.) A 3 generation pedigree if available
- 3.) A copy of the cardiologist's echocardiogram report
- 4.) Filled out enrollment form

Please mail samples to:

**Stern Lab c/o Eric Ontiveros
UC Davis School of Veterinary Medicine
Dept. of Medicine and Epidemiology
2108 Tupper Hall
One Shields Ave
Davis, CA 95616**

Blood drawn does not need to be mailed back with an ice pack or be shipped overnight. Samples can be shipped via standard mail, FedEx, or UPS. Please send your samples in a padded package with the pedigree, veterinary report, and enrollment form.

Contact Information

Principal Investigator
Joshua Stern

Laboratory Personnel
Eric Ontiveros
sterngenetics@ucdavis.edu
(530) 752-4892

SUBMISSION FORM FOR SAS DNA GENETIC RESEARCH

Canine Details: (Owner to Complete)

KC Registered Name: _____

Call Name: _____

KC Registered No.: _____ Which KC?: _____

Breed: _____ Sex: _____ Date of Birth: _____

Clinical Details: (Please do not complete for Lab Personnel Only. Please include all required information in your shipment.)

Cardiologist Name: _____ Cardiology Exam Date: _____

Was sedation used? _____ Does the dog have a heart murmur? _____ If so, what grade? _____

Is *Aortic Insufficiency* or *Aortic Regurgitation* mentioned on the report? _____

Is *Mitral Insufficiency* or *Mitral Regurgitation* mentioned on the report? _____

Left Ventricle Measurements (*LV posterior* or *LV free wall in diastole*; *Interventricular septum in diastole usually in mm or cm*):

LVPWd: _____ IVSd: _____

Maximal Aortic Outflow tract velocity in meters/second, by subcostal continuous wave approach:

Normal (<1.9 m/s) _____ m/s Equivocal (1.9-2.5 m/s) _____ m/s Affected (>2.5 m/s) _____ m/s

Maximal Pulmonic Outflow tract velocity in meters per second:

Normal (<1.5 m/s) _____ m/s Equivocal (1.5-2.0 m/s) _____ m/s Affected (>2.0 m/s) _____ m/s

Family History of SAS or PS?: _____

Enclosed: (Owner to Complete)

___ Blood sample (2-5ml in an EDTA tube).

___ 3 to 5 generation pedigree of the dog that sample is enclosed.

___ Please include cardiologist report that includes heart murmur findings and echocardiographic data.

Owner Name: _____ Email _____ Phone: _____

I hereby consent that the sample submitted for testing is of the dog described above. I accept that the designated institution undertaking the SAS/PS Research has my permission to use this sample for testing. I understand that the designated institution will not publish either my dog's name or my details.

Signature: _____ Date: _____

Please send samples to:

**Stern Lab c/o Joshua A. Stern
UC Davis School of Veterinary Medicine
Dept. of Medicine and Epidemiology
2108 Tupper Hall
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Davis, CA 95616**