

Case Study

Orivet Genetic Pet Care Screen Reveals Heritable Dry Nose and Helps Diagnose Hip Dysplasia in a Young Labrador Retriever

Patient Condition and History

Bob is a 6 months old Labrador Retriever puppy. His parents decided to screen his DNA for genetic disease and perform a Genetic Risk Analysis in order to understand any health risks Bob may have. The Pure Breed DNA Profile and Genetic Analysis (attached) revealed he was Affected (carrying two copies of the mutation) for Hereditary Nasal Parakeratosis (HNPK) or Dry Nose. His Genetic Risk Analysis (attached) revealed an increased risk to several other conditions and a Wellness Plan was put in place to be on the look out for those. His parents did comment his nose does tend to be dry most of the time but did not think it was anything that worries Bob currently.

Three weeks later, and just prior to his de-sexing operation, Bob's parents reported to the Veterinarian that they had noticed Bob was occasionally hopping on his left hind leg when running in the park. A clinical examination revealed pain in his left hip. As part of Bob's new wellness plan, his parents elected to go ahead with the recommended pelvic screening radiograph, to be taken at the time when Bob was anaesthetised for his routine surgery.

His X-ray revealed severe Hip Dysplasia with subluxation of both hip joints but more severely on the left coxo-femoral joint.

Bob's parents had discussed managing this condition with his Veterinarian. They are considering surgical correction at a later stage, but in the meantime are supporting him by strict management of his weight and a modified nutritional plan with cautious use of anti-inflammatory medications as needed.



GENETIC ANALYSIS REPORT

OWNER'S DETAILS

Laura Whish

Suite 102/163-168 Ink St
Mulgrave, VI 3734



address P.O. Box 110
St Kilda 3182 VIC
phone +61 3 9534 1544
fax +61 3 9525 3550
email info@orivet.com.au
website www.orivet.com.au
A.B.N. 87225165899

ANIMAL'S DETAILS

Registered Name: Whish (X1245P)
Pet Name: Bob
Breed: Labrador Retriever
Date of Birth / Age: 25/02/15

Registration No:
Microchip No: 96509978923999
Sex: Male
Colour: Yellow

COLLECTION DETAILS

Case Number: 16-135015
Collected by: ASAP Laboratory

Date of Test: 25/02/16
Approved Coll. Mthd.: Yes

Sample with Lab ID Number 16-135015 was received at Orivet Genetics, DNA was extracted and analysed with the following results reported:

DISEASE(S): EXERCISE INDUCED COLLAPSE - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
DEGENERATIVE MYELOPATHY - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
CANINE HYPERURICOSURIA - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
CENTRONUCLEAR MYOPATHY - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
CYSTINURIA - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
MYOTUBULAR MYOPATHY X LINKED - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
NARCOLEPSY - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
PYRUVATE KINASE (PK) DEFICIENCY - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
PROGRESSIVE ROD CONE DEGENERATION - PRA - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
RETINAL DYSPLASIA / OSD - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
MALIGNANT HYPERTHERMIA - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
HEREDITARY NASAL PARAKERATOSIS (DRY NOSE) - **AFFECTED / POSITIVE FOR THE VARIANT**
SKELETAL DYSPLASIA 2 (COL11A2) - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**
ELLIPTOCYTOSIS (B-SPECTRIN) - **NORMAL / CLEAR / NEGATIVE (NO VARIANT DETECTED)**



RESULTS REVIEWED AND CONFIRMED BY:

Dr. Noam Pik BVs MDSV

George Sofronidis BSc (Hons)



Personal Animal Genetics

Orivet International - USA Office

PH: 844-4ORIVET, 79 North Franklin Tpke, Suite 103, Ramsey NJ 07446
admin@orivet.com, www.orivet.com

GENETIC RISK ANALYSIS REPORT

OWNER'S DETAILS

Laura Whish

Suite 102/163-168 Ink St
Mulgrave, VI 3734



address P.O. Box 110
St Kilda 3182 VIC
phone +61 3 9534 1544
fax +61 3 9525 3550
email info@orivet.com.au
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ANIMAL'S DETAILS

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Pet Name: Bob
Breed: Labrador Retriever
Date of Birth / Age: 25/02/15

Registration No:
Microchip No: 96509978923999
Sex: Male
Colour: Yellow

COLLECTION DETAILS

Case Number: 16-135015
Collected by: ASAP Laboratory

Date of Test: 25/02/16
Approved Coll. Mthd.: Yes

BOB'S ALGORITHMIC RISK ANALYSIS OF COMMON HERITABLE DISEASES

10 MOST RELEVANT DISEASES

1. **Cataract (Cloudiness of the Lens)**
2. **Elbow Dysplasia**
3. **Epilepsy**
4. **Exercise Induced Collapse**
5. **Hereditary Myopathy Labradors (CNMY)**
6. **Hip Dysplasia**
7. **Progressive Retinal Atrophy**
8. **Progressive Retinal Atrophy, Generalised**
9. **Retinal Dysplasia**
10. **Tricuspid Valve Dysplasia**

OTHER LESS COMMON CONDITIONS

1. Sebaceous Adenitis
2. Corneal Dystrophy
3. Urolithiasis
4. Diabetes Mellitus
5. Seborrhoea

Bob's DNA was tested for these diseases.



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Discussion

Identifying genetic heritable conditions and analysing data for heritable disease predisposition has proven very useful for Bob. HNPK affected dogs develop crusts and fissuring of the nasal planum at a young age but are otherwise healthy. This is skin disorder that leads to crusts and fissures on the nasal planum of affected dogs. In some cases, bloody fissures and secondary infections may occur and cause chronic irritation and inflammation around the nose and affected skin area. Knowledge of this condition will allow for more effective management and hopefully prevent unpleasant complications for Bob. Treatment and management tends to be conservative in approach and include simple washing with saline, Vitamin E and the use of topical Vaseline.

Identifying Hip Dysplasia at an early age greatly increases client compliance and help in the management of this condition. Depending on severity of clinical signs, good management, may help avoid, or at least delay, the need for surgery in a large number of cases.

Conclusions

Using Orivet Genetic Pet Care screening and risk assessment tools was an inexpensive way to identify and manage the future health risks for Bob. Both owner and Veterinarian have the comfort of knowing they have done everything possible to give Bob the best chance to live a long and healthy life.

A lifetime plan was implemented to manage risk and ensure prevention, early diagnosis and more effective management of Bob's specific health needs.

Dr. Noam Pik BVSc, BVMS, MBA, IVAS, MACVS (Emergency and Critical Care) and Orivet's Chief Veterinarian, noted, "Every pet is a truly unique individual. Orivet provide valuable knowledge that allows tailoring of the wellness health plan, improving medical outcomes and saving owners significant costs in the long run".