

These findings indicate that the bobtail mutation acts as a dominant trait and suggests that having two copies of the T-box gene is lethal.

Testing can be done by buccal mouth swab.

Explanation on how the T-Box gene can be inherited and its consequences. Taken from UC Davis, Veterinary Genetics Laboratory.

Alleles:

N = Normal (no T-Box gene)

BT = Natural bobtail (Carries the T-Box gene)

Explanation of Results:

- Breeding pairs with **N/N** genotype (neither parent has the **BT** gene) do not have this natural bobtail variant. They will most likely have normal length tails, though other genetic factors may affect tail length. They cannot transmit this natural bobtail variant to their offspring.
- Breeding Pairs with **N/BT** genotype (one parent with **N** and one with **BT**) are expected to have a natural bobtail. They may transmit this natural bobtail variant to 50% of their offspring. Matings between **N/BT** dogs are expected to produce 50% puppies with natural bobtail, 25% puppies with normal length tails, and 25% puppies with the embryonic lethal **BT/BT** genotype (an expected 25% reduction in litter size).
- Breeding pairs with **BT/BT** genotype (both parents carrying the **BT** gene) are expected to terminate development in utero (embryonic lethal). This genotype is not expected to be seen in live dogs. If a **BT/BT** genotype puppy is born alive, it may display severe developmental defects, including spinal deformities that are incompatible with life.

It is suggested that the **BT/BT** mating should not be attempted.

Testing for the BT genotype can be done by buccal mouth swab.

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**TESTING LABORATORIES.**

The UK now has two laboratories for clinical diagnostics.

**LABOKLIN (UK & IRELAND)**

125 Northenden Road,  
Manchester  
M33 3HF  
Tel: 0161 282 3066  
Email: [info@laboklin.co.uk](mailto:info@laboklin.co.uk)  
Web: [www.laboklin.co.uk](http://www.laboklin.co.uk)

**ANIMAL DNA DIAGNOSTICS.**

Animal DNA Diagnostics Ltd  
William James House  
Cowley Road  
Cambridge  
Cambridgeshire  
CB4 0WX  
Tel: 01223 395577  
Email: [info@animaldnadiagnostics.co.uk](mailto:info@animaldnadiagnostics.co.uk)  
Web: [www.animaldnadiagnostics.co.uk](http://www.animaldnadiagnostics.co.uk)

Test kits can be obtained from these laboratories on request.

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More information on Schipperke health can be found through the Breed Health Coordinator and through the Schipperke Club UK website. Links below.

Breed Health Coordinator

Mrs Karen Brooks
Email: petkargsd@yahoo.co.uk
Tel: 01525 718300

The Schipperke Club UK

www.schipperkeclub.co.uk



INTRODUCTION TO SCHIPPERKE HEALTH IN THE UK.

The Schipperke is a robust, hardy little dog. The breed has not changed much from its origins (although it now has a tail instead of being docked) and has few health problems and very few conditions where there is a known or suspected hereditary component.

There are some diseases associated with the breed but it must be stressed that it is very rare for a Schipperke to suffer from any of them in the UK.

The UK Schipperke breed is very healthy and testing for these diseases is helping to eliminate them from the breed here.

Like all living creatures, Schipperkes slow up with the years and can develop some of the ailments of old age such as arthritis but it is not at all uncommon to find dogs living healthy active lives well into their teens and beyond.

This leaflet has information on all of the diseases associated with the breed.

HEALTH CONDITIONS.

MUCOPOLYSACCHARIDOSIS TYPE IIIB (MPSIIIB).

A degenerative disease affecting the neurological system.

It usually manifests itself between the ages of 2-4 years with early symptoms of muscle weakness, tremor and loss of co-ordination.

There is no effective treatment and affected dogs are usually put to sleep before they become incapacitated.

At present there have been no cases of affected dogs in the UK but dogs carrying the mutated gene for the condition have been identified here after testing via mouth swabs or blood

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### **EPILEPSY.**

Epilepsy in varying degrees of severity is found in Schipperkes from time to time.

As in humans, this is thought to be a hereditary element in at least some forms of epilepsy but at present, the pattern of transmission is unclear.

A longitudinal study in Schipperkes is currently underway at the University of Finland in Helsinki and the UK Club has been involved in providing buccal swabs and some blood samples from our dogs.

Dogs affected by epilepsy can, if the condition is not severe, be treated with non-convulsant medication and with careful management, can live a relatively normal life.

Again it must be stressed that this disease appears to affect only a very small percentage of Schipperkes.

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LEGG CALVE PERTHES DISEASE

Primarily seen in smaller breeds of dog it is a disease

of the hip joint which results in deformity of the ball of the joint.

Most affected dogs show symptoms of pain and lameness before their first birthday and if untreated, increasingly severe inflammation and arthritis are likely to result.

Surgery to remove the head and neck of the femur (the longer leg bone) is the only effective treatment and the prognosis is good provided that rehabilitative therapy is followed.

At present, the causes of this ailment are not fully understood but it is suspected that heredity may well play a part.

Dogs hips can be x-rayed under anaesthetic or sedation after the age of 9 months to check for irregularities or inflammation which may be indications that the disease is present.

NO dogs found to be suffering from this illness should be used in breeding

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### **A NEW DISEASE DISCOVERED.**

#### **VON WILLEBRAND DISEASE TYPE 1 (VWD1)**

Von Willebrand Disease is, the most common Inherited bleeding, of both humans and dogs.

It is caused by deficiency in the amount of a specific protein needed to help platelets (the blood cells used in clotting) stick together and form clots to seal broken blood vessels.

The deficient protein is called Von Willebrand factor (vWF)

Many dogs with vWD never show outward evidence of having the disease. Others may spontaneously haemorrhage from the nose, vagina, urinary bladder or oral mucous membranes.

Prolonged bleeding after trauma or surgery is a common clinical finding, and bruising or bleeding

after a surgical sterilization procedure (spaying or neutering) may be the first time any abnormality is noticed. Females may bleed excessively after giving birth.

In affected dogs with uncontrollable bleeding, death may occur.

Testing for this disease can be done with either a buccal mucosal swab or blood sample. Prolonged bleeding after the blood sample can raise the suspicion of the disease being present.

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THE BOBTAIL MUTATION.

The bobtail mutation is a dominant trait. It is a naturally occurring dominant inherited mutation in the T-box gene. This can result in partial full tail (tip missing) through varying lengths, short tail (being only a few inches in length) to tailless (no discernible vertebrae).

The length of the bobtail is variable and under the influence of other, as yet undetermined, genetic factors that cause some natural bobtail individuals to have nearly full-length tails while others may have virtually no tail. Both sexes can inherit the mutated T-box gene. Only one of the mutated T-box genes is needed to produce bobtails.

In the 23 breeds in which natural bobtails were found, 17 had bobtails caused by this T-box mutation. These included the Australian Shepherd, Brittany, Karelian Bear Dog, Polish Lowland Sheepdog, Pyrenean Shepherd, **Schipperke**, Swedish Vallhund and Russell Terrier. In each of the dogs of these breeds with natural bobtails, one (and only one) copy of the T-box gene was found.