

## Leukoencephalomyelopathy (LEMP)

**Affected breeds:** Leonberger

Canine leukoencephalomyelopathy (LEMP) is a degenerative disease of the nervous system which specifically affects the white matter of the brain and spinal cord. The condition particularly affects the dogs gait - affected dogs have progressively worsening movement including knuckling and dragging of the paws, then a generalised muscle weakness and an inability to control movement. The condition typically affects young dogs of 1-3 years.



The mutation is recessive, which means that dogs which carry the mutation ("CARRIERS") are normal but will pass the mutation on to an average of 50% of their offspring. Puppies which inherit two copies of the mutation will develop LEMP ("AFFECTED").

### **This test is particularly useful for breeders:**

- To identify carriers among their breeding stock so that they can avoid CARRIER X CARRIER mating combinations which would risk AFFECTED puppies.
- To conclusively confirm LEMP

### **This test will be reported as:**

**CLEAR** : no evidence of the LEMP mutation

**CARRIER** : carries one copy of the defect, which will be passed to 50% of offspring

**AFFECTED** : carries two copies of the defect, and will have LEMP

### **The genetic status of dogs can be used to predict breeding outcomes when different combinations are mated:**

CLEAR X CLEAR = 100% CLEAR

CARRIER X CLEAR = 50% CARRIER, 50% CLEAR

**CARRIER X CARRIER = 25% AFFECTED, 50% CARRIER, 25% CLEAR**

## References

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