## Familial Nephropathy (FN)

**Affected breeds:**
Cocker Spaniel, Welsh Springer Spaniel, Cockapoo

Familial Nephropathy is an inherited condition which leads to early kidney failure. Typically the condition becomes apparent from six months to two years of age – clinical signs include excessive thirst and urination, loss of appetite, lethargy, vomiting, anorexia, bad breath, poor coat quality and pale mucous membranes. The kidneys of an affected dog have defective tubules which results in inadequate removal of waste and urine production. The condition is ultimately fatal.

Familial Nephropathy is caused by a recessive genetic mutation. This 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 suffer from Familial Nephropathy ("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 Familial Nephropathy

**This test will be reported as:**
**CLEAR** : no evidence of the Familial Nephropathy 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 Familial Nephropathy

**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** Keith E. Murphy, Ashley G. Davidson, George E. Lees (2006) Methods for identification of Alport Syndrome EP1842927A1