



Stanhope Park Veterinary Hospital

POLYCYSTIC KIDNEY DISEASE

Autosomal Dominant Polycystic Kidney Disease (AD-PKD) is a genetically inherited disease which causes fluid-filled cysts in the kidneys, and sometimes the liver. These cysts are present from birth, but start off very small, progressively enlarging to compress and damage normal renal (*kidney*) tissue, eventually leading to kidney failure. **Persians, Chinchillas and Exotic Shorthaired cats** are most commonly affected, but the disease can occur in other breeds too, although this is rare.

HOW IS IT CAUSED?

The condition is caused by a single autosomal dominant gene, so it affects both males and females, and all cats that have this gene will develop the disease, i.e. there are no unaffected carriers of the gene. A cat only needs one of its parents to be affected with AD-PKD in order to inherit the abnormal gene, and every breeding cat with AD-PKD will pass the disease on to a proportion of its kittens, even if it is mated with an unaffected cat. Kittens which inherit two copies of the abnormal gene (i.e. one from each parent), will develop such severe disease that they die before birth.

The cysts grow quite slowly so most affected cats will not show any signs of kidney disease until they are middle-aged or older (typically around 7-8 years old), and as such may have been used for breeding several times, passing the disease on genetically to the offspring.

Unfortunately, there is no treatment that will prevent PKD from developing into **Chronic Kidney Disease (CKD)**, as the cysts cannot be removed or prevented from growing. Once kidney failure has developed, supportive treatment can be used to minimise the impact of the kidney disease, but it will inevitably be a progressive disease.

HOW CAN IT BE PREVENTED?

A **genetic test** is available which accurately identifies all cats which have the abnormal gene, and the test can be run using a **blood sample** or a **mouth swab**. The sample is then sent to an accredited laboratory – *Langford Veterinary Diagnostics* or the *Animal Health Trust* in the UK.

The disease can also be identified by ultrasound scanning of the kidneys, which is straightforward in advanced cases when the cysts are large, however diagnosis may be difficult in young cats prior to breeding age, and as such, scanning should be performed by a specialist veterinary ultrasonographer using a very high definition ultrasound probe, with the cat at least 10 months of age to be given certification. This technique is therefore of limited availability.

In order to eliminate AD-PKD from a line of breeding cats, it is necessary to breed only from AD-PKD negative parents. Therefore, a genetic testing protocol of all kittens can be established, ensuring all cats are permanently identified by microchip to link its results back to the correct cat. An **AD-PKD negative register** has been set up by **International Cat Care (ICC)**, so that responsible selection of AD-PKD negative breeding stock and kittens can be made. See icatcare.org for further information.



If you have any questions about your pets, call us on 01325 620968 or ask a member of our team