

2020-2021 CaP-K Funded Grants

Total Funding \$183,618

CaPK20-001: Investigating the genetic basis of total body phosphate overload in cats with mild azotemic chronic kidney disease.

Principal Investigators: Dr. Rebecca Geddes; Royal Veterinary College, London, United Kingdom. \$49,950

Many cats with chronic kidney disease develop high levels of phosphorus in their blood, leading to rapid decline and bone disorders. This study will perform whole genome sequencing to look for a genetic basis for this condition, leading to potential treatments and improved longevity.

CaPK20-003: Impact of feline circadian rhythms on phosphorus and parathyroid hormone concentrations.

Principal Investigator: Andrea J. Fascetti, Professor, VMD, PhD, DACVN, DACVIM, University of California- Davis. \$34,563

Blood phosphorus levels are often measured in cats, especially those with kidney disease but, in humans, the level varies during the day (called the "circadian rhythm") affecting its interpretation. This study will measure the phosphorus level in normal cats throughout the day to determine if and how it changes, which will increase the accuracy of the interpretation of phosphorous levels and enable more accurate determination of abnormal results.

CaPK21-004: The impact of synbiotics on the gastrointestinal microbiome and phosphate homeostasis in cats with chronic kidney disease.

Principal Investigators: Dr. Thurid Johnstone, Professor Caroline Mansfield, University of Melbourne. \$49,355

The intestinal tract of cats contains many different bacteria in a delicate balance, but cats with kidney disease have alterations in these bacteria ("dysbiosis") that may lead to worsening disease. This study compares the intestinal bacteria of normal cats to those with kidney disease to determine how it changes, leading to improved diagnostic tests and potential treatments with pre- and probiotics.

CaPK21-005: Evaluation of untargeted urinary metabolomic profiling, microRNA (miRNA), and advanced glycation end products (AGEs) in cats with chronic kidney disease (CKD).

Principal Investigators: Joe Bartges, DVM, PhD, DACVIM, DACVN; Art Edison, MS, PhD; GRA. University of Georgia. \$49,750

Kidney disease is common in cats, but current tests can't diagnose it until the disease has progressed significantly. This study looks at different compounds in cat urine to determine if they can be used to diagnose kidney disease in earlier stages, improving the prognosis and longevity of these patients.