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PREDICTING DISEASE:

The Promise of Artificial Intelligence for Pet Care

The ability to conduct deep analysis of data, detect patterns and trends, and learn from these discoveries makes artificial intelligence (AI) an astounding innovation. AI and machine learning are constantly unearthing new ways to diagnose, treat, and even predict human disease, while promising earlier, more precise care, leading to better quality of life and longevity.

Through deep analysis of large sets of health data collected as part of routine diagnostics, RenalTech™ can predict whether a cat will develop chronic kidney disease (CKD) within two years with greater than 95% accuracy.

Now, the benefits of AI can also be applied to veterinary medicine. With the introduction of RenalTech, available exclusively from Antech Diagnostics, AI is set to transform the way we care for pets.

Through deep analysis of large sets of health data collected as part of routine diagnostics, RenalTech can predict whether a cat will develop chronic kidney disease (CKD) within two years with greater than 95% accuracy. As the industry's first predictive diagnostic tool, RenalTech is the future of veterinary care. For the first time, veterinarians can provide care before CKD strikes.

From Disease Detection to Disease Prediction

CKD is a multifactorial disease that is difficult to detect early enough to positively impact a cat's health and longevity. Traditional diagnostics find disease when about 40% of kidney function is lost, while the SDMA biomarker finds disease when about 25% of kidney function is lost. Nonetheless, by the time either of these diagnostics detect disease, organ damage is underway. With RenalTech, veterinarians can intervene early, deliver highly personalized care plans, and inspire better pet owner compliance.

Millions of Data Points

Initially, researchers at WALTHAM Centre® identified 35 data points as possible predictors of CKD and over time, leveraging machine learning, were able to narrow the list to 6 routine analytes (creatinine, BUN, urine specific gravity, urine protein, urine pH, WBC) and the pet's approximate age. Powered by data from 150 000 cats seen by Banfield Animal Hospital veterinarians over 20 years, the RenalTech algorithm is the result of collaborative research led by the world's largest pet care company, Mars Petcare. The vast repository of historical patient data and RenalTech algorithm combine to produce a RenalTech value that allows veterinarians to predict whether cats are likely or not likely to develop CKD.

Inspiring Better Pet Care

Antech will offer RenalTech at no additional cost as part of routine feline diagnostic panels. In addition to predicting CKD, the new test helps support the value of preventive care, offering a compelling reason for ongoing diagnostics for comorbidities and other undiagnosed conditions.

RenalTech is the first of a new generation of predictive diagnostic tools poised to ensure veterinary care continues to develop parallel to human healthcare. The ability to predict disease offers veterinarians a powerful, tangible way to inspire pet owner compliance with personalized care plans that maintain pet quality of life and the bond between pet owners and their pets.