



University of Missouri

Dog Biomarkers Helping With OA

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Canines for progress...A team from the University of Missouri (UM) is tackling osteoarthritis (OA) for dogs, horses and humans alike. The UM group is looking into potential biomarkers in dogs for early diagnosis of OA, which could help identify patients at increased risk of developing this condition.

"By developing methods for earlier diagnosis of osteoarthritis, prevention or even curative treatment strategies to manage the disease become more realistic," said James Cook, professor of veterinary medicine and surgery, and the William & Kathryn Allen Distinguished Professor in Orthopedic Surgery, in the June 6, 2011 news release. "Biomarkers could detect the disease before pain and swelling occurs, and owners could take preventative measures, such as modifying activities or diet, helping their pets lose weight and strengthen their joints, to reduce the likelihood of their dogs developing osteoarthritis."

The researchers took samples of synovial fluid from dogs, and found that the quantity and quality were altered in injured stifle joints (the joint in the hind limbs of dogs that is the equivalent joint to the human knee).

"At the MU Comparative Orthopaedic Laboratory, we are particularly interested in identification and validation of biomarkers that can detect early stages of osteoarthritis to provide accurate diagnostic and prognostic information prior to the onset of clinical disease for people and for pets," Cook added. "Our team, led by Drs. Kuroki, Stoker and Garner, is making tremendous progress in developing simple tests on blood, urine and synovial fluid that show great promise for helping us diagnose impending osteoarthritis before it is too late to help the patient in the most effective manner."

Dr. Cook told OTW,

This work is progressing very well. We are pursuing the Canine Osteoarthritis Biomarker Panel and the Human Osteoarthritis Biomarker Panel in parallel. In dogs, we are able to successfully diagnose, stage, and monitor treatment for OA secondary to ACL (CCL) [anterior cruciate ligament/cranial cruciate ligament] problems in their knees

and that aspect is ready for commercial use at this point. We are trying to further validate, fine-tune, and apply it to other joints and causes of OA in dogs at this time.

He also commented to *OTW*,

For humans, we are early in the process but the initial work is extremely promising for being able to use this panel for screening, early diagnosis, staging, and treatment monitoring in the knee, and hopefully other joints, as well.

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