

# Medical News

Public Affairs and Media Relations

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## **Researchers Study Cancer in Dogs to Ultimately Help Humans with Same Disease** *Ohio State vets, oncologists create unique clinical research collaboration for studying sarcoma*

COLUMBUS, Ohio – A new collaborative research program pairs oncologists who treat childhood and adult sarcomas with veterinarians who manage the same cancers in canine patients.

The ultimate goal, says director [Cheryl London](#), DVM, PhD, is to speed up the pace of translational research discoveries and new treatments for sarcoma, a diverse group of cancerous tumors that occur in soft tissue or bone.

Established in 2016 by [The Ohio State University College of Veterinary Medicine](#), the [Comparative Oncology Signature Research Program](#) is a partnership between the vet school and [The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute](#) (OSUCCC – James) that integrates nearly 40 scientific investigators from Ohio State's colleges of medicine, pharmacy, nursing and veterinary medicine along with researchers from Nationwide Children's Hospital.

### **Connecting Canine and Human Cancers**

The Comparative Oncology Signature Research Program addresses a significant challenge in the current clinical trials model: the lack of a close comparative testing model for translating drug discoveries to application in human cancer.

“It can take up to 10 years to fully develop and test drugs for human application – and 50 to 90 percent of the oncology drugs that make it to human testing fail because the most common testing model (a mouse) is very different than a human,” says London. “Dogs are a natural analog to human sarcoma because the diseases are so similar across the two species. This represents exceptional potential to accelerate the drug discovery process for the benefit of both our canine patients and human patients.”

An estimated 15,000 individuals are diagnosed with sarcoma annually, with roughly 3,000 of those cancers occurring in the bone. About 800 of those cases are osteosarcoma, a rare form of bone sarcoma that typically occurs in youth under age 18. Dogs experience a high rate of sarcoma, particularly osteosarcoma with over 10,000 cases reported per year.

“We haven't had a new drug in osteosarcoma in over 30 years because the disease is rare. The cost of researching, developing and bringing a drug to market in the United States is too prohibitive for pharmaceutical companies to make that type of investment for a rare disease,” says [Joel Mayerson](#), MD, an oncologic orthopaedic surgeon who specializes in sarcoma at The OSUCCC – James. “Unfortunately, while surgery can be curative for many patients it isn't for everyone. Without new drug therapies effective at controlling the cancer, survival rates have remained stagnant.”

[Clinical trials](#) are actively underway through the Comparative Oncology Signature Research Program, including two canine clinical trials looking at novel therapies to treat the spread of osteosarcoma. If the therapies prove effective in dogs, they will move on to human testing.

In addition to providing clinical trial research support for new treatment approaches, the Comparative Oncology Signature Research Program is focused on research to identify the key genetic and molecular abnormalities of sarcoma; developing advanced imaging tools for improved diagnosis and pre-surgery imaging accuracy; and modern surgical techniques for achieving optimal cancer control and preserving anatomical function.

#### **Sarcoma Research and Patient Care at The OSUCCC – James**

Ohio State is one of two academic institutions in the nation to have principal investigators for both a Specialized Programs of Research Excellence (SPORE) grant and a pediatric Program Project Grant (PPG) from the National Cancer Institute to study sarcoma.

To learn more about the sarcoma treatment team at the OSUCCC – James, visit [cancer.osu.edu](http://cancer.osu.edu) or call 1-800-293-5066.

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#### **About the OSUCCC – James**

The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute strives to create a cancer-free world by integrating scientific research with excellence in education and patient-centered care, a strategy that leads to better methods of prevention, detection and treatment. Ohio State is one of only 45 National Cancer Institute-designated Comprehensive Cancer Centers and one of only four centers funded by the NCI to conduct both phase I and phase II clinical trials on novel anticancer drugs. As the cancer program's 306-bed adult patient-care component, The James is one of the top cancer hospitals in the nation as ranked by *U.S. News & World Report* and has achieved Magnet designation, the highest honor an organization can receive for quality patient care and professional nursing practice. At 21 floors with more than 1.1 million square feet, The James is a transformational facility that fosters collaboration and integration of cancer research and clinical cancer care. For more information, visit [cancer.osu.edu](http://cancer.osu.edu).