

UMN Celebrates Biomedical Research Awareness Day, Highlighting the Benefits of Animal Research

April 18, 2025



University of Minnesota celebrates Biomedical Research Awareness Day (BRAD), recognizing the critical role of animal research in advancing science and medicine.

On April 17, the University of Minnesota participated in [Biomedical Research Awareness Day](#) (BRAD) to celebrate the critical role animals play in biomedical research and the medical breakthroughs that result—benefiting both humans and animals. BRAD is an international outreach initiative led by Americans for Medical Progress that highlights the high standards of care provided to research animals, and fosters a community of research advocates. Additionally, BRAD celebrates careers in biomedical research, laboratory animal medicine, and animal care, helping to inspire the next generation of professionals in these vital fields.

To celebrate BRAD 2025, UMN hosted a tabling event in the Animal Science/Veterinary Medicine Building, including representatives from Experimental Surgical Services (ESS), Research Animal Resources (RAR), the Institutional Animal Care and Use Committee (IACUC), the Veterinary Diagnostic Laboratory (VDL), the RAM Club, and AeroCore. Participants shared information about the significant ethical standards governing animal research at UMN, including compliance with IACUC, RAR, USDA, AAALAC, and FDA regulations and guidelines. The discussion emphasized the 3Rs of research—Replacement, Reduction, and Refinement—and the critical contributions of veterinary staff in guiding animal care, anesthesia, and analgesia to ensure both scientific rigor and animal welfare.

Animal Research in Action

In keeping with federal regulation, all University projects involving animals are individually reviewed by the [Institutional Animal Care and Use Committee](#) (IACUC) to ensure that they are justified by their societal benefits. IACUC regularly inspects all facilities housing UMN animals. UMN's program for animal care and use in research and teaching recently [received a renewal of full accreditation](#) following an on-site review in the fall of 2024 by [AAALAC International](#), a leading accreditor that promotes the humane treatment of animals in science.

Experimental Surgical Services: A Core Resource

UMN's [Experimental Surgical Services](#) (ESS) laboratory supports the development of new medical devices and therapies through preclinical research using large and small animal models. As part of the [Department of Surgery](#), ESS serves as a core resource for University investigators, academic collaborators, and industry partners seeking scientifically valid ways to evaluate medical technology before clinical studies in humans.

A surgical team at the University of Minnesota ESS laboratory performs a procedure.

ESS conducts in vivo animal studies that are required by regulatory agencies—such as the US Food and Drug Administration (FDA)—to demonstrate patient safety. These studies are performed on behalf of sponsors, with animals serving as surrogates for human patients in the most ethical and scientifically rigorous ways possible. All of this, ensures the safety of new medical devices and therapies before they reach clinical trials.

Dr. John Carney, director of the Experimental Surgical Services laboratory, explained, “We are serving the unmet needs of patients throughout the world through the development of new medical technology. Using animal models is part of the multi-step, integrated approach we use to ensure that the safest new devices and drugs are available to patients.”

Finding Solutions for Treating Low Back Pain

[Dr. Laura S. Stone](#)'s lab at the University of Minnesota focuses on improving our understanding and treatment of chronic low back pain (LBP), a leading global cause of disability. Since about 40 percent of LBP cases are associated with intervertebral disc (IVD) degeneration, her team studies this condition using both preclinical models and human samples. Their work has shown that physical activity improves IVD health and reduces pain indicators, and that experimental pharmacological treatments can lessen signs of both degeneration and pain in animal models.

“The use of animal models allows us to understand the mechanisms driving chronic pain and to test new treatment approaches,” shared Stone.

A distinctive aspect of Dr. Stone's research is the exploration of epigenetic regulation in IVD degeneration. Her lab is investigating how changes in gene expression—without changes to the genetic code—may influence the progression of degeneration and pain, using both human and animal disc tissue. Because epigenetic changes are potentially reversible, this work may help identify future therapeutic targets. Her lab is also studying how chronic pain affects the brain and immune system, and developing blood and saliva biomarkers to predict which LBP patients may benefit from specific treatments. Additional studies are examining how factors like alcohol use, early life adversity, sedentary lifestyle, and poor diet influence IVD degeneration and pain processing in the brain.

Continued Commitment to Ethical and Responsible Research



UMN Veterinary professionals provide expert, compassionate care while training the next generation of animal health specialists.

Animal research at UMN is supported by a broad and collaborative network of faculty, staff, and critical infrastructure. As of early 2025, UMN had approximately 1,000 active protocols approved by the IACUC, involving around 475 principal investigators. These protocols span a wide range of disciplines—including biomedical research, agriculture, field studies, and teaching—underscoring the diversity and reach of UMN's research enterprise.

An estimated 3,500 individuals across the UMN system contribute to research involving animals, including scientists, veterinarians, animal care professionals, and technical staff. Their collective efforts ensure that research is conducted to the highest standards of animal welfare and scientific integrity. This work is supported by multiple specialized facilities across the University system, as well as strong administrative and compliance frameworks. Together, these people and resources form the backbone of UMN's research infrastructure and are essential to advancing scientific discovery and improving health outcomes for both humans and animals. UMN maintains a collaborative commitment to biomedical research and to upholding the highest standards of humane and responsible animal welfare.