

From the University of Mississippi Medical Center Division of Public Affairs

## UNIVERSITY OF MISSISSIPPI MEDICAL CENTER RESPONDS TO FILING BY THE PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE

For more information contact the UMMC Division of Public Affairs at (601) 984-1100.

JACKSON, Miss. – The University of Mississippi Medical Center's use of animals in undergraduate medical physiology education – a laboratory exercise that gives first-year medical students a broader and more in-depth experience than simulation technology alone can offer – is humane, carefully regulated and complies with legal requirements.

School of Medicine students, faculty and administrators believe both simulation and live-animal methods are beneficial and therefore use both approaches. UMMC medical students consistently rate the laboratory exercise as one of the top educational activities in the first two years of their curriculum.

### **Compliance with requirements**

UMMC's animal-care program complies with applicable legal requirements, including those of the U.S. Department of Agriculture. Its staff of veterinarians, veterinary technicians and husbandry technicians ensures the best care for animals. Facilities, staff and procedures continually earn top rankings from third-party monitoring bodies including the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC).

In a Jan. 27 inspection of numerous aspects of UMMC's swine-use program including housing facilities, husbandry and housing procedures, surgical facilities, health records, internal-committee site visits, practices, monitoring methods and written protocols, the USDA Animal and Plant Health Inspection Service made one citation.

It directed UMMC's Institutional Animal Care and Use Committee to require physiology lab instructors to write a more detailed description in one section of the swine-lab protocol pertaining to online searches done for alternative methods to animal use.

That section is being rewritten and will be completed before the next lab session, the deadline set by the inspectors.

Beyond this technical citation for a written protocol, the USDA found no issues with the UMMC swine lab, facilities, animal care or procedures.

### **A leader in simulation**

UMMC physiologists know computer simulation perhaps better than anyone. The Department of Physiology and Biophysics' pioneering work in computer simulation begun by the late Dr. Arthur Guyton in the 1970s continues today.

Faculty have developed a computer program for simulating integrative physiology that leading institutes, universities and agencies worldwide use in their research, education and proof-of-concept exercises.

First-year UMMC medical students use a version of that same program in two classroom-based physiology labs and in four-to-five lab homework assignments in conjunction with

the swine lab. Despite the promise emerging technology holds, current computer programs are not yet completely accurate substitutions for animal models.

Running a scenario on a computer program multiple times returns the same result every time. However, results in live animal models vary, just as with human patients. Experience with the latter requires more critical thinking on the part of medical students and care providers.

Extremist organizations such as the Physicians Committee for Responsible Medicine (PCRM) downplay the benefits of live-animal laboratory experience in support of their goals of ultimately banning use of animals in medical education and research. Medical school faculty members, along with numerous scientific and medical professional associations, agree these groups should not make decisions about what is in the best educational interests of medical students.

### **About the laboratory exercise**

Pigs used in the annual medical physiology cardiovascular lab are anesthetized throughout the session and treated humanely. Veterinary staff members are present and involved the entire time. They continually monitor the pigs to ensure adequate anesthesia and humanely euthanize them at the end of the exercise.

In the lab, first-year medical students learn the basics of placing catheters, controlling arterial pressure with standard medications, and defibrillation procedures. During their careers as physicians, they are likely to perform these same procedures on live human patients.

Students are permitted to opt out of participating in the lab and the vast majority of students report they find the experience valuable. In fact, students assess the cardiovascular lab as the highest-rated activity in the first two years of medical school.

Animal use in education and research provides benefits for both humans and animals – benefits that have been abundantly documented. Abandoning animal procedures, as PCRM advocates, would dramatically impede biomedical discovery and prolong suffering from diseases.

In a state that consistently suffers among the nation's highest rates of heart disease, obesity, stroke, hypertension and kidney diseases, we must continue to work toward effective treatments and equip medical students with the best education available. Both animal and non-animal educational methods play an integral part of UMMC's mission to produce the highest-quality physicians for Mississippi and to serve its population with expert care.

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6/22/2011

Please forward this message to colleagues who might be interested.

The University of Mississippi Medical Center, located in Jackson, is the state's only academic medical center. University of Mississippi Health Care represents the clinical programs of the Medical Center and includes University Hospitals and Health System and University Physicians, the faculty group practice. UMMC encompasses five health science schools, including medicine, nursing, health related professions, dentistry and graduate

studies, as well as the site where University of Mississippi pharmacy students do their clinical training. The Medical Center's threefold mission is to educate tomorrow's health-care professionals, conduct innovative research to improve human health, and to provide the highest quality care available to the state's citizens. A major goal of the Medical Center is the improvement of the health of Mississippians and the elimination of health disparities. For more information, contact the Division of Public Affairs at 601-984-1100 or visit us on the Web at <http://info.umc.edu/>.