

UAMS News Bureau

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Researcher Awarded \$1.7 Million to Study Smoking Cessation

LITTLE ROCK — A University of Arkansas for Medical Sciences (UAMS) research scientist recently received a \$1.7 million grant from the National Institute on Drug Abuse to study the different ways smokers respond to emotional distress.

Merideth Addicott, Ph.D., of UAMS' Center for Addiction Research, will use functional magnetic resonance imaging (fMRI) and laboratory tests to study the tolerance levels of smokers in an effort to gain a better understanding of why some smokers succeed in quitting while others relapse.

Addicott plans to expose the study's participants to a variety of physically stressful situations, such as measuring how long they can hold their breath or how long they can stand exposure to cold water, in addition to emotional stressors like mathematic testing. The participants will also be asked to work on a math test while undergoing an MRI scan and given the opportunity to decide when they want to quit answering the questions.

The goal of the study is to look into the basic brain mechanisms that people use to tolerate stress while trying quit smoking, says Addicott.

“We’re looking at stress and its relationship to smoking because we know that some people smoke to address stress,” says Addicott, an assistant professor in the Department of Psychiatry. “Stress can come from so many things – traffic, family, work – and stress can really trip people up when they are trying to quit smoking. We’re looking for individual differences to predict who can quit for longer based on distress tolerance.”

Addicott will be using fMRI to study the insula, a relatively small region of the brain used to interpret physical sensations.

“The insula plays a role in conscious awareness of the body, whether something is a good sensation or a bad one,” she says. “We use those same mechanisms to determine if or when we want to go back to smoking, so hopefully this study will help us find ways to support people who smoke as a response to stress.”

UAMS is the state’s only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and seven institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute and Institute for Digital Health & Innovation. It is the only adult Level 1 trauma center in the state. *U.S. News & World Report* named UAMS Medical Center the state’s Best Hospital; ranked its ear, nose and throat program among the top 50 nationwide; and named six areas as high performing — cancer, colon cancer surgery, heart failure, hip replacement, knee replacement and lung cancer surgery. UAMS has 2,727 students, 870 medical residents and five dental residents. It is the state’s largest public employer with more than 10,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children’s Hospital, the VA Medical Center and Baptist Health. Visit www.uams.edu or www.uamshealth.com. Find us on [Facebook](#), [Twitter](#), [YouTube](#) or [Instagram](#).

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