

News Release

July 27, 2006

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Penn Researchers Examine the Effects of Meditation on Early Cognitive Impairment *First Study at Penn's New "Center for Spirituality and the Mind," Created to Explore Relationships Between Spirituality and Science in the Human Brain*

(Philadelphia, PA) - Researchers at the **University of Pennsylvania School of Medicine** are examining the effectiveness of meditation on early cognitive impairment. Once this new study is completed, the results could help answer lingering questions over whether or not stress-reducing techniques and mind exercises can lessen or even prevent cognitive decline. This is the first study at Penn's new "Center for Spirituality and the Mind," which evolved from work initiated in Penn's Department of Radiology, to embrace and encourage researchers from the fields of medicine, pastoral care, religious studies, social work, nursing, and bioethics to expand our knowledge of how spirituality may affect the human brain.

"We'll be looking at patients with mild cognitive impairment or symptoms of early Alzheimer's disease," explains **Andrew Newberg, MD**, Associate Professor of Radiology, Psychiatry, and Religious Studies, who also directs the Center's investigations and is Principal Investigator of this pilot study. "We'll combine their meditation with brain imaging over a period of time to see if meditation improves cognitive function and is associated with actual change in the brain's activity levels. Specifically, we'll be looking for decreased activity in specific areas of the brain."

The dementia process causes a decreased function of neurons in the brain and can result in problems with memory, visual-spatial tasks, and handling emotional issues. As it worsens in a patient, it can also eventually lead to the need for round-the-clock care.

In this study, investigators want to look at the early symptoms of dementia. Study participants will learn a particular kind of meditation, called Kirtan Kriya, identified as one of the most fundamental types of meditation practice. It's a repeated chanting of sounds and finger movements designed to help the mind focus and become sharper. Study participants will perform this meditation program every day for eight weeks to see if this relaxation technique can change the brain's response to different tasks.

"This is a form of exercise for the brain which enables the brain to strengthen itself and battle the unknown processes working to weaken it. We want to keep the mind sharp and work that muscle," Newberg adds. "We might see improvements in baseline activity levels in the brain and these patients might be able to activate their brain in a more robust way in particular. So if this kind of meditation is successful in helping patients with neurological problems, it could then someday become a low-cost additional treatment to current therapy."

Newberg will use SPECT (Single Photon Emission Computed Tomography) imaging to capture the baseline image of the brain as well as the brain's activity during meditation. Images will be taken at the beginning of the study and then after the eight-week program.

This study, which is now enrolling patients, is funded by a research grant from the Alzheimer's Research and Prevention Foundation. ARPF President, Dharma Singh Khalsa, MD, is known for his expertise in the area of meditation and brain function.

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***PENN Medicine** is a \$2.9 billion enterprise dedicated to the related missions of medical education, biomedical research, and high-quality patient care. PENN Medicine consists of the University of Pennsylvania School of Medicine (founded in 1765 as the nation's first medical school) and the University of Pennsylvania Health System.*

Penn's School of Medicine is ranked #2 in the nation for receipt of NIH research funds; and ranked #3 in the nation in U.S. News & World Report's most recent ranking of top research-oriented medical schools. Supporting 1,400 fulltime faculty and 700 students, the School of Medicine is recognized worldwide for its superior education and training of the next generation of physician-scientists and leaders of academic medicine.

The University of Pennsylvania Health System includes three hospitals, all of which have received numerous national patient-care honors [Hospital of the University of Pennsylvania; Pennsylvania Hospital, the nation's first hospital; and Penn Presbyterian Medical Center]; a faculty practice plan; a primary-care provider network; two multispecialty satellite facilities; and home care and hospice.

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