Memphis, Tenn. (September 17, 2012) – Bones serve a greater purpose in the body than providing structural support. Darryl Quarles, MD, at the University of Tennessee Health Science Center (UTHSC) has learned that bones communicate with the kidneys, something he began studying some 14 years ago. It is a research project the National Institute of Health (NIH) has funded continuously since that time. Recently, the National Institute of Arthritis and Musculoskeletal and Skin Diseases, a division of NIH, renewed the grant, providing 1.8 million to Dr. Quarles, division chief of Nephrology at UTHSC College of Medicine, to continue investigating a field of study he pioneered.

“We discovered that the bone is not an endocrine organ,” he said. “It’s a paradigm shifting view.” Overall, his research is establishing a new conceptual framework that indicates bones send messages to organs in the body to regulate phosphate and Vitamin D.

Dr. Quarles discovered that bones secrete a hormone, called FGF23, which activates a process in the kidneys to help maintain a balance of calcium -- absorption of which is stimulated by Vitamin D -- and phosphate. An irregular proportion of calcium and phosphate can lead to kidney disease, he explained.

The NIH grant will be administered during a 5-year period in increments of $365,000.

The National Institute of Arthritis and Musculoskeletal and Skin Diseases was established in 1986. Its mission is to support research into the cause, treatment and prevention of arthritis and musculoskeletal skin diseases.

The National Institutes of Health (NIH), the nation's medical research agency, includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. NIH is the primary federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.

As the flagship statewide academic health system, the mission of the University of Tennessee Health Science Center (UTHSC) is to bring the benefits of the health sciences to the achievement and maintenance of human health, with a focus on the citizens of Tennessee and the region, by pursuing an integrated program of education, research, clinical care, and public service. In 2011, UT Health Science Center celebrated its centennial: 100 years advancing the future of health care. Offering a broad range of postgraduate training opportunities, the main UTHSC campus is located in Memphis and includes six colleges: Allied Health Sciences, Dentistry, Graduate Health Sciences, Medicine, Nursing and Pharmacy.
The UTHSC campus in Knoxville includes a College of Medicine, College of Pharmacy, and an Allied Health Sciences unit. In addition, the UTHSC Chattanooga campus includes a College of Medicine and an Allied Health Sciences unit. Since its founding in 1911, UTHSC has educated and trained more than 53,000 health care professionals on campuses and in health care facilities across the state. For more information, visit www.uthsc.edu.