

SOUTHWESTERN NEWS

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UT Southwestern receives \$1.78 million grant for obesity research as part of NIH Roadmap initiative

DALLAS – Sept. 30, 2004 – UT Southwestern Medical Center at Dallas has been awarded a prestigious three-year planning grant from the National Institutes of Health to study the causes of obesity and associated metabolic diseases.

The \$1.78 million grant, part of the NIH Roadmap for Medical Research, creates an Interdisciplinary Research Center and could develop into a permanent Metabolic and Obesity Center at UT Southwestern.

“This grant provides a formal mechanism for investigators from different scientific disciplines to come together under one umbrella to focus their efforts on a single disease process,” said Dr. Jay Horton, associate professor of internal medicine in the division of digestive and liver diseases and principal investigator on the grant. “Hopefully, our efforts will provide bigger steps toward understanding the metabolic processes that lead to obesity and some of the metabolic syndromes commonly associated with obesity, such as cardiovascular disease, hypertension, diabetes and fatty liver disease.”

The Taskforce for Obesity Research at Southwestern (TORS) was initiated by Dr. Gregory Fitz, chairman of internal medicine. Dr. Horton and 23 other UT Southwestern investigators from various disciplines will examine the behavioral, metabolic and molecular mechanisms that cause obesity and metabolic syndrome. The major focus is the brain and liver, as these organs play key roles in the development of obesity and related disorders.

Four research teams will concentrate on three objectives: to foster interdisciplinary interactions at UT Southwestern to study obesity and metabolic syndromes; to develop state-of-the-art research programs using genetically modified mice to elucidate the metabolic and molecular bases of obesity and metabolic syndromes; and to support translation of scientific findings made in animal models to humans.

Dr. Keith Parker, chief of endocrinology and director of the Jean D. Wilson Center for Biomedical Research, is lead investigator for the team studying central regulators of energy metabolism. The molecular biology of energy metabolism will be headed by Dr. Horton, while Dr. Craig Malloy, professor of radiology and internal medicine, will oversee the *in vivo* intermediary metabolism team. Dr. Scott Grundy, director of the Center for Human Nutrition, is lead investigator for the human genetics and energy metabolism group.

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“This grant will stimulate us to think outside of the field in which we’re used to thinking and to interact with people looking at body-weight regulation from different perspectives,” said Dr. Parker. “It will cause us to develop collaborations that we wouldn’t have done before.”

In applying the research to humans, investigators will use participants from the Dallas Heart Study, an investigation of cardiovascular disease involving nearly 6,000 Dallas County residents. Molecular and clinical research techniques are being used in this groundbreaking study of a large multiethnic group of individuals to develop new biotechnology and establish a novel training program for scientist-physicians.

“Everyone has a friend or family member who has the metabolic syndrome, so it’s a common problem. The Dallas Heart Study gives us a real snapshot of what the exact prevalence is in Dallas,” Dr. Malloy said. “There also are underlying conditions, such as fatty liver, that would never be identified in the population without those people having participated in the study. Fatty liver is a very important component of the work being done within this NIH grant. The Dallas Heart Study serves as a tremendous opportunity to jumpstart this project.”

The exploratory work is expected to eventually lead to another NIH clinical research center grant which will further support basic and clinical research in obesity and its associated complications, Dr. Horton said.

“Metabolic diseases, such as obesity and diabetes, are going to be a major area of public health and medicine in this country because the metabolic interactions represent an emerging problem that is going to bring on significant premature cardiovascular disease and diabetes over the next few decades,” said Dr. Grundy, chairman of human nutrition. “We’re trying to get a handle on that issue from every aspect.”

Obesity is associated with many adverse health consequences such as cardiovascular disease, stroke, diabetes and non-alcoholic fatty liver disease. The number of U.S. deaths attributable to obesity annually is estimated at between 285,000 and 325,000 people, second only to tobacco smoking as a cause of preventable death.

“Obesity is a deceptively simple problem, as it is essentially energy input vs. energy output,” Dr. Malloy said. “However, it’s not obvious yet why obesity should necessarily accompany development of type II diabetes, cardiovascular and other diseases. These are problems that need to be solved with input from people who think creatively about metabolic problems, and that’s what UT Southwestern brings to this

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effort.”

This initiative is led by the National Center for Research Resources. The NIH Roadmap is a series of far-reaching initiatives designed to transform the nation’s medical research capabilities and speed the movement of research discoveries from the bench to the bedside. It provides a framework of the priorities the NIH must address in order to optimize its entire research portfolio and lays out a vision for a more efficient and productive system of medical research.

Other UT Southwestern researchers involved in the Taskforce for Obesity Research at Southwestern are Dr. Michael Brown, director of the Erik Jonsson Center for Research in Molecular Genetics and Human Disease; Dr. Jeffrey Browning, assistant instructor of internal medicine; Dr. Shawn Burgess, assistant professor of radiology; Dr. Jonathan Cohen, associate professor of internal medicine; Dr. Ralph DiLeone, assistant professor of psychiatry; Dr. Abhimanyu Garg, chief of nutrition and metabolic diseases; Dr. Joseph Goldstein, chairman of molecular genetics; Dr. Dana Hardin, associate professor of pediatrics; Dr. Helen Hobbs, director of the Eugene McDermott Center for Human Growth and Development and the Donald W. Reynolds Cardiovascular Clinical Research Center; and Dr. Steven Kliewer, professor of molecular biology.

Also, Dr. Edward Livingston, chief of GI/endocrine surgery; Dr. David Mangelsdorf, professor of pharmacology; Dr. Eric Nestler, chairman of psychiatry; Dr. David Russell, professor of molecular genetics; Dr. Dean Sherry, professor of radiology; Dr. Kosaku Uyeda, professor of biochemistry; Dr. Gloria Vega, professor of clinical nutrition; Dr. Brian Weis, assistant professor of internal medicine; Dr. Masashi Yanagisawa, professor of molecular genetics; and Dr. Andrew Zinn, associate professor in the Eugene McDermott Center for Human Growth and Development.

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