Researchers at UT Southwestern are beginning to challenge a long-held assumption that Type 2 diabetes in obese people is caused solely by their extreme heaviness, a revelation that could lead to new therapies for diabetic patients.

Experiments with genetically altered mice have revealed that obesity can be dissociated from other causes of diabetes, said Joel Elmquist, D.V.M., Ph.D., Director of the Center for Hypothalamic Research at UT Southwestern.

“We are finding with these mouse models is that you can dissociate the body weight and obesity per se from the different parts of the metabolic syndrome (a cluster of physical conditions that lead to diabetes),” Dr. Elmquist said. “We have made obese mice whose blood glucose levels are normal.”

The diabetes can be dissociated from loss of body weight, Dr. Elmquist said. Collectively, these findings suggest that targeting different neural pathways in the brain could lead to new therapies for treating diabetes.

“We think there are novel targets in the brain for diabetes,” he said. “Clearly these drugs could target obesity as well because of similar overlapping circuits.”

Dr. Elmquist said he and other scientists with the Taskforce for Obesity Research at UT Southwestern are excited about this work and other ongoing projects aimed at better understanding diabetes and obesity.

“We also are getting very interested in circuits in the brain that control food intake, body weight, and metabolism,” he said. “We’re finding that a particular group of neurons control metabolism, glucose levels, and energy, but they also seem to control mood.”

Researchers also are working with mice on treadmills to investigate the link between exercise and possible beneficial metabolic effects.

In a related work, researchers have been testing a drug aimed at weight loss for its potential as an anti-diabetic, Dr. Elmquist said. He discussed this research at an annual luncheon held by the Friends of the Center for Human Nutrition.

“Basically, what we think is that it is a potentially better diabetes drug than an obesity drug, but it’s currently approved only for obesity,” he said.

UT Southwestern researchers have much to look forward to after a productive year in 2014, Dr. Elmquist said. In April 2014, the American Diabetes Association named Dr. Elmquist the recipient of its Outstanding Scientific Achievement Award, the association’s top honor for a scientist early in his career.

The Center for Human Nutrition Newsletter is published by the Center for Human Nutrition at UT Southwestern Medical Center.

Dr. Joel Elmquist, Helen Hobbs, Jay Horton, and Scott Grundy share the panel during a discussion at a recent event for the Friends of the Center for Human Nutrition.
UT Southwestern’s Center for Human Nutrition

Bids Farewell to Margie

The path Ms. Whelan took to UT Southwestern was circuitous, to say the least, she said. Her relocation from New York to Phoenix was the first of three big career moves. Ms. Whelan made with Dr. Grundy. The professional duo met in the early 1970s at Rockefeller University in New York City, where Ms. Whelan worked with researchers as a registered nurse. Before her stint at Rockefeller, Ms. Whelan worked at Washington University in St. Louis and Bellevue Hospital in New York over about seven years. She earned her nursing degree from SUNY Downstate Medical Center in Brooklyn.

When Ms. Whelan met Dr. Grundy at Rockefeller, he was serving as Chief Resident at Rockefeller’s University Hospital.

In 1971, when Dr. Grundy accepted an offer to head a new program in Phoenix, he invited Ms. Whelan to help take on the new challenge. There, they spent two years in clinical investigation of diseases of American Indians under the direction of the National Institutes of Health.

“I didn’t have any attachments, so I went,” Ms. Whelan said.

Then in 1973 an offer came from San Diego, where Dr. Grundy served as Chief of the Metabolic Section at the Veterans Administration Medical Center and Professor of Medicine at the University of California, San Diego.

So Ms. Whelan packed up her things and moved to San Diego, too.

And in 1981, after nine years in San Diego, Dr. Grundy was recruited to become Founding Director of the newly formed Center for Human Nutrition at UT Southwestern.

Excited by the opportunity to be involved with groundbreaking science, Ms. Whelan leaped at the opportunity to move again, she said. The journey over the course of her career was fulfilling, she said, and much more than she had expected it would be. She recalls traveling through Europe for conferences and lectures given by Dr. Grundy. She’ll never forget the work the Nutrition Center did on monounsaturated fats, which can have beneficial effects on the heart, or work with statins, the class of drugs that can lower cholesterol.

“The monounsaturated studies got all the attention,” she said. “And now statins are so popular. They’re unbelievable.”

Her career, she said, was full of experiences that offered good lessons, including one that taught her and some colleagues to be very specific when communicating with patients.

The experience involved a brother and sister who were obese, and they wanted guidance on losing weight, she said. So the staff put the siblings on a 1,500-calorie diet and asked them to come back in a week. When they returned for the weigh in, neither one had lost any weight. In fact, each had gained a number of pounds, which was puzzling, until the siblings explained.

“They followed the 1,500-calorie diet, but they thought they were supposed to eat 1,500 calories per meal, not per day,” she said. “This is why you have to be very, very careful when you explain things to patients.”

Though the years seemed to fly by, she leaves the Center satisfied, knowing that she is part of its world-renowned legacy.

“But I’ll miss the camaraderie at work,” she said. “I will miss all the people.”

Ms. Whelan will especially miss the network the people who make up the Friends of the Center for Human Nutrition, who help raise funds and spread the word in support of the work done at the Center, she said.

“What has impressed me about Dallas—not New York, not San Diego, not Arizona, but Dallas—is that it has wonderful communities of spirit,” she said. “Nobody comes together like Dallas.”

Q: If I am trying to reduce the added sugar in my diet, should I use an alternative sweetener?

A: Optimally, you simply use less added sugar. The American Heart Association recommends a daily limit of 5 teaspoons of added sugar per day for women and 9 teaspoons for men. Adapt to black coffee, unsweetened tea, and cereal topped with fresh fruit instead of sugar. Choosing natural sugars such as honey or agave nectar still provides added sugar. Recent studies regarding artificial, no-calorie sweeteners such as aspartame (in the blue packet), sacralose (in the yellow packet), or saccharin (in the pink packet) report varied results. Some show benefit in weight loss efforts, but others describe an association with obesity. New sweeteners derived from stevia or monk fruit offer natural options, but we have less experience with their benefits. Sugar alcohols (xylitol, mannitol, and sorbitol) are often used in diabetic foods. They provide about half the calories of sugar but can cause diarrhea when consumed in large amounts. Water is a better option than diet soda, but for some individuals, substituting a no-calorie sweetener for a sugary beverage can assist with weight loss.

Q: What about coconut oil? Is it good for you?

A: Traditionally, its high saturated fat content made coconut oil a “no-no.” As the USDA worked to eliminate trans fat in our foods, coconut oil became a popular substitute for partially hydrogenated oils in baked products. Some tout its benefits based on the health of South- east Asians who use it regularly, but studies are rather limited. The coconut oil available 10 to 20 years ago, when I would show the jar of solid rather than liquid fat on supermarket tours, was actually a hydrogenated version that included some trans fat. Recent studies using virgin coconut oil, which is high in shorter-and-chain saturated fat, suggest to me that it can be incorporated in a healthy diet occasionally. I do not advise purposely inclusion of coconut oil in one’s daily diet for prevention of heart disease.

Q: I have a gastrointestinal disorder and I want some good nutrition advice. Should I go to a dietitian or a nutritionist?

A: When you need nutrition advice for a medical problem, find a registered dietitian who can provide medical nutrition therapy. Registered dietitians (RDNs), such as the 15 whom UT Southwestern graduates each year, have completed an academic degree with specific course requirements and over 1,200 hours of clinical training, passed a registration exam, and maintained continuing education. Legally in the state of Texas, anyone can call himself or herself a nutritionist. It may be a bit confusing because registered dietitians are nutritionists but not all nutritionists are registered dietitians. And now the common RD credential has been revised to the RDN, a Registered Dietitian/Nutritionist. You may see either credential—an RD or an RDN. So for sound, up-to-date nutrition advice related to medical issues, make sure your nutritionist is an RD or RDN.
Friends’ Events

(l to r): Dr. Scott Grundy, Will Montgomery, and Peter O’Donnell chat during a break at an event for the Friends of the Center for Human Nutrition.

(l to r): Trevor Pearlman, Carol Levy, and Rachaele Hulsey greet each other at a gathering of the Friends of the Center for Human Nutrition.

(l to r): John Levy, Chair of the Friends of the Center for Human Nutrition, with Carol Levy, Lizzie Routman, and Dan Routman at the annual P.O’B. Montgomery Luncheon.

(l to r): Drs. Jennifer Lambert, Jaime Almandoz, Justin Trombould, and Yasuyo Wada.

(l to r): Shannon and Kimm Wynne attended a recent event for the Friends.

(l to r): Drs. Deborah Clegg, Dr. Andrew Bird, and Lona Sandon were guests at a recent luncheon for the Friends of the Center for Human Nutrition.

(l to r): Tom May and Paul Stoffel visited with each other during a Friends luncheon.

(l to r): Linda Marcus and Debbie Ryan dine together at a gathering for the Friends of the Center for Human Nutrition.
The Friends of the Center for Human Nutrition, entering its 30th year in 2015, gathered recently at the group’s fall luncheon to applaud years of dedicated work by the Center’s researchers and staffers.

And for their support of the Center, members of the Friends received high praise themselves during a program led by Scott Grundy, M.D., Ph.D., the Center’s Founding Director.

“The Friends of the Center for Human Nutrition are the lifeblood of the Center,” Dr. Grundy said. The group held the annual P.O’B. Montgomery Fall Luncheon in the 14th floor dining hall of the T. Boone Pickens Biomedical Building on UT Southwestern Medical Center’s north campus.

“These are exciting times,” Dr. Grundy told the members.

Those remarks were echoed by Greg Fitz, M.D., Executive Vice President for Academic Affairs, Provost, and Dean of UT Southwestern Medical School.

Everyone associated with the Center for Human Nutrition will have a lot to look forward to in the coming year, Dr. Fitz said, particularly with continued efforts to replace Dr. Grundy, who stepped down from his leadership role in 2013 after 32 years.

“Big recruitments are to come, none more important than one to replace Dr. Grundy,” Dr. Fitz said. Filling Dr. Grundy’s shoes will be challenging, he said. The best candidates would have a rare combination of attributes, similar to Dr. Grundy’s. They must be leaders who can take scientific findings and translate them into policy that will be put to good use.

The luncheon’s hosts took time to pay tribute to Marjorie Whelan, who retired after working as Clinical Coordinator for more than 30 years.

John Levy, Chair of the Friends of the Center for Human Nutrition, congratulated Ms. Whelan and awarded her with a lifetime honorary membership to the Friends.

In addition to lunch and tributes, the Friends enlisted three Center investigators to discuss body fat and obesity. The speakers included: Jaime Almandoz, M.D., Assistant Professor of Internal Medicine, Subspecialties Clinic; Jonathan Cohen, Ph.D., Professor of Internal Medicine, Eugene McDermott Center for Human Growth and Development; and Abhimanyu Garg, M.D., Professor of Internal Medicine and Associate Program Director, General Clinical Research Center.

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**ABOUT THE FRIENDS**

Make the Friends of the Center for Human Nutrition part of your balanced information diet

Joining the Friends makes you part of the effort to improve the quality of life today and for the next century. Your membership will support the projects of promising young scientists and ensure that excellent nutrition research continues well into the future. Your membership also entitles you to receive invitations to attend regular presentations from distinguished scientists in disciplines affected by nutrition, including heart disease, obesity, and diabetes. In addition to scheduled events for all Friends, the Younger Friends enjoy two events each year focused on food-related topics. All members receive the Center for Human Nutrition Newsletter and other communications.

Annual membership in the Friends is a tax-deductible contribution of $1,000 per individual or couple. Membership in the Younger Friends, which has activities oriented toward those 40 years old and younger, is $250. A new category has been added to the Younger Friends for those who are 41 to 45 years of age. That fee is $500 per year. To join the Friends of the Center for Human Nutrition, call 214-648-2344.