

TESTIMONY

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Topic:

Conquering Obesity:

The U.S. Approach to Combating this National Health Crisis

The mission of The Endocrine Society is excellence in hormone research and care of patients with endocrine disease.

To achieve this mission, the Society will continue to be the prime advocate and integrative force for clinicians and investigators, and will maintain a leadership role in providing endocrine education and information to the diverse professional endocrine community, the broader medical community, policy-makers, patients, and the public.

Statement of Daniel Spratt, M.D.

Before the House Government Reform Subcommittee on
Human Rights and Wellness

September 15, 2004

Mr. Chairman and members of the subcommittee, thank you for the opportunity to testify today. I am Director of Reproductive Endocrinology and Endocrine Research at Maine Medical Center. Every day in my clinical practice I deal with both adolescents and adults with obesity related problems. I am here today as the Chairman of The Endocrine Society's Government Relations Committee. The Endocrine Society is the world's largest and most active professional organization of endocrinologists representing over 12,000 members worldwide. We are dedicated to quality research, patient care, and education.

I will be primarily addressing issues of research and obesity today. In other presentations, you have heard of the magnitude of the obesity problem in the United States. The Endocrine Society has provided to the subcommittee our obesity handbook that provides additional details. This handbook is part of a major effort the Endocrine Society has undertaken over the past two years to increase scientific and public awareness of the obesity crisis. In it you will find basic facts and statistics on obesity, the role of endocrinology, exciting new research findings and other resources for reference.

The federal government has also set in motion efforts to begin to tackle the obesity problem. The CDC has identified obesity as the number two preventable cause of death among Americans, trailed only by tobacco use. Secretary Thompson has taken the first steps to classify obesity as a disease. NIH Director Dr. Zerhouni created the NIH Obesity Research Task Force. The Task Force's Strategic Plan for Obesity Research, released in February of this year, calls for the NIH to undertake research exploring preventing and treating obesity through lifestyle modification, pharmacological and surgical approaches and research that further examines the link between obesity and its associated health conditions.

Several important questions confront us. What is the cause of obesity? Is it genetic, is it cultural, is it environmental? The truth is there may be no one cause of obesity, but rather a combination of many with different combinations in different individuals. Why are more than 64% of Americans are overweight or obese, and even more alarming why has childhood obesity has tripled since 1970? Why are racial and ethnic minorities, as well as those with lower socioeconomic status disproportionately affected by obesity and related ailments such as diabetes and cardiovascular disease? While we should not single out one cause or one issue for obesity I have been asked today to update the committee on current research being conducted by those in the field of endocrinology.

So what role can The Endocrine Society play in helping you address these problems? Endocrinologists work with hormones and metabolism. Hormones are substances secreted by glands that regulate body functions. For instance, thyroid hormone from the thyroid gland regulates the general body metabolism. Researchers have recently discovered that adipose or fat tissue actively secretes hormones that influence many body functions and is in turn regulated by hormones from other glands. As metabolic specialists, endocrinologists are actively engaged in the study, management and treatment of obesity and related diseases. In both the clinical and basic research setting, they evaluate the hormones that regulate appetite, metabolism and energy balance. Endocrine researchers are attempting to

determine the root causes of obesity and define the most effective measures to prevent, as well as combat, the condition. Ongoing research attempts to identify the mechanisms that impact appetite control, food preferences and glandular malfunctions.

One such recent endeavor resulted in the discovery of the hormone leptin by Jeff Friedman at the Rockefeller Institute that opened a whole new dimension to the field of obesity. Leptin is a hormone produced by fat cells that travels in the bloodstream to the brain where it influences appetite. It also influences body temperature, reproductive function, and the speed at which calories are burned. This terrific discovery established the principle that fat cells can communicate with the brain and influence metabolic processes. Since this discovery there have been many more discoveries demonstrating that other organs such as the pancreas and the GI tract, in addition to fat cells, can produce substances that control appetite and metabolism.

It is also worth noting that breakthroughs in obesity research have resulted from what we call “broad-based” research - research that is conducted without a particular clinical goal established at the onset of the research. For example, scientists at Massachusetts General Hospital have recently evaluated thousands of genes in the *C. elegans* worm. Among other discoveries they found hundreds of promising genes that may help determine how fat is stored and used in a variety of animals including us. This new information can be used to find similar genes in humans and then assess their significance for control of obesity. The decision to characterize this worm genome was not made with obesity in mind, but more for the general belief that deciphering its genome would have some payoff down the road. We must continue to support broad-based research in science, as some of the most important breakthroughs have been serendipitous.

This basic information lays the foundation for clinical research. For instance, currently there are only two FDA-approved drugs for the long-term treatment of obesity. Neither is fully effective. Clinicians routinely prescribe medication to treat the complications of obesity such as hypertension, diabetes, cardiovascular disease, and reproductive disorders, but we have only these two pharmaceutical options to treat obesity before it results in these comorbidities. Better knowledge of the physiology and pathophysiology of obesity can lead to development of more effective drugs as well as more effective nutritional, surgical, and other approaches. We, as doctors, and the American population, as patients, need better medications based on the knowledge we will gain from our basic and clinical research.

We believe that obesity research should be continued at three levels. First, basic research should continue to better understand the body’s complex mechanisms of storing and utilizing energy. Second, transitional research should move these basic discoveries into trials of clinical treatments. Our evolving knowledge will provide numerous opportunities for better diagnostic, pharmaceutical, surgical, nutritional, and behavioral approaches. Third, as these approaches are implemented, outcome or impact research should be designed and put in place to assess efficacy. Finally, we should pay particular attention to the disproportionate occurrence of obesity and its related health problems in our childhood and minority populations.

We are right at the threshold of understanding how our bodies control weight and how we might use this knowledge to cure obesity. It is imperative that we continue our public and private investment to translate these breakthroughs in basic and clinical research into treatments for those suffer from obesity and its related ailments. Thank you for inviting me to testify today and I thank the committee for furthering the public discourse on the growing epidemic of obesity.