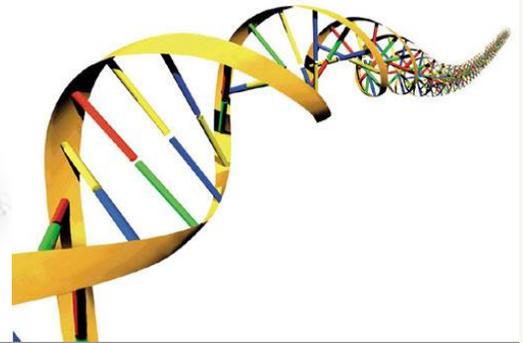
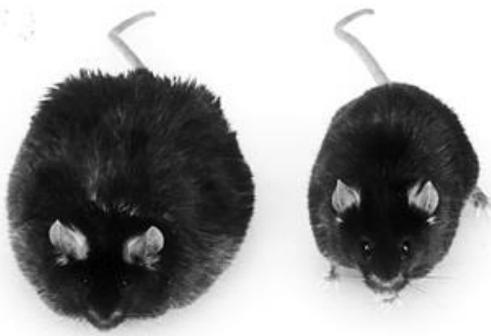




Sheba Medical Center
The Endocrinology Institute
OBESITY AND DIABETES RESEARCH
CENTER



Amir Tirosch MD PhD

July 2015

Los Angeles, CA, USA



Obesity and Diabetes Research Center

In 2015, Amir Tirosh, M.D., Ph.D., Asst. Professor of Medicine at Harvard Medical School and an Attending Physician at the Division of Endocrinology and Diabetes at Brigham and Women's Hospital in Boston, MA, has relocated back to Israel to establish a new Research Center for Obesity, Diabetes and Metabolism at Sheba Medical Center.

Obesity and diabetes are urgent and extraordinarily complex health problems worldwide. More than one-third of adults and nearly 20 percent of the children in the United States are now obese, which increases a person's chance of developing many health problems, including diabetes, heart disease, high blood pressure, fatty liver disease, and some cancers. Annual health costs related to obesity in the U.S. is nearly \$200 billion, and nearly 21 percent of medical costs in the U.S. can be attributed to obesity. The US National Institutes of Health (NIH) thus has called for a broad and vigorous portfolio of research aimed toward developing effective strategies for building the scientific evidence base to enhance prevention and treatment of obesity and diabetes. While much of this research stems from the creativity of individual investigators, the NIH new initiative calls to foster research in emerging disciplines, encourage new collaborative efforts and promote research translation from basic discoveries to clinical trials – 'from bench to bedside'. "Researchers can work together toward the goals of preventing and treating obesity, to help people lead healthier and more fulfilling lives." said NIH Director Francis S. Collins, M.D., Ph.D.

The NIH and other international and professional institutions, fund research to reduce the prevalence of obesity and its health consequences. However, given limited funding sources and a highly competitive environment in academia, true collaborative efforts to overcome the challenging obstacles in obesity and diabetes research, unfortunately seldom occur.

In January 2015, we launched the Obesity and Diabetes Research Center in the Endocrinology Institute of Sheba Medical Center with a vision to establish a collaborative translational research center to address both basic research aspects, preclinical and clinical challenges in the field of obesity and diabetes. With excellent clinical care and infrastructure for biomedical research and most importantly, a true collaborative spirit, the Sheba Medical Center provides the ideal fertile ground to integrate researchers from various disciplines in a joint mission to advance obesity and diabetes research.

The main focus of our Center is the influence of modern environment on our health:

- ***What is it in our surroundings that makes us obese and diabetic?***
- ***What can we do to reverse it?***
- ***How can we promote successful and healthier aging in such an environment?***



The Sheba Obesity and Diabetes Research Center – The Vision

To establish a novel and integrative obesity and diabetes research center as an Excellence Center for translational research.

- To promote clinically relevant research at all levels – basic, pre-clinical, clinical and epidemiologic research, with meaningful impact on public health.
- To focus on collaborative research within the Sheba Medical Center, academic institutions in Israel and the international scientific community. The internationally recognized researchers of this innovative research center will be devoted to facilitate our knowledge and understanding on the mechanisms linking obesity and diabetes aiming at alleviating the public health burden of these conditions.

'From bench to bedside' – A collaborative effort

Following the epidemic proportions of obesity and diabetes worldwide, and the understanding that a single laboratory would not be able to come up with a solution to these complex and multifactorial conditions there is an obvious need for a comprehensive, collaborative team-effort, involving several expertise in order to adopt a true translational approach to bridge the gap between basic research and the patient's bed side.

Research focus



a. The role of food preservatives in the obesity epidemic: We have identified a common food preservative that increases blood levels of several hormones known to increase the production of sugar by the liver leading to an exaggerated increase in blood sugar after a meal. Interestingly we discovered that chronic exposure to this food preservative results in weight gain, increase in fat mass and diabetes. Translating our pre-clinical results to humans is currently undergoing. In addition, we continue to assess the effects of chemicals and nutrients in modern nutrition on the development of obesity and diabetes.

b. Cellular mechanism linking obesity and diabetes: Our research is focused on mechanisms by which cells communicate with each other (in liver and in fat) in an attempt to increase the capacity of organs to cope with the metabolic needs of the body.

Research focus

c. In addition to basic research tools, we involve in clinical trials and epidemiological studies assessing novel risk factors and potential therapeutic approaches for these conditions. These studies are done in collaboration with the Medical Corps of the Israeli Defense Forces and with leading researchers in this field both in Israel and abroad. We have demonstrated that both body mass and certain lipids at levels well within what is currently considered 'normal range', are strong risk factors for both diabetes and heart disease at early adulthood.

d. Clinical studies in collaboration with clinicians and researchers at Sheba Medical Center (pediatric endocrinologists, pediatricians, neonatologists, gynecologists and others) to study metabolic abnormalities in various other conditions related to obesity, such as gestational diabetes, metabolic abnormalities in children, asthma and immune diseases.

e. The Unit for Successful Aging with Diabetes. This project is led by Dr. Tali Cukierman-Yaffe, a board-certified endocrinologist in our Center and an epidemiologist trained at McMaster University, Hamilton, ON. This unit is aimed at testing the feasibility & efficacy of a Holistic infra-structure for promoting successful aging with diabetes. Dr. Cukierman-Yaffe and her team utilizes a multidisciplinary approach for a comprehensive functional assessment and for designing novel treatment plans for older individuals with diabetes. They aim to improve physical, cognitive and emotional wellbeing of the diabetic elderly and to improve their quality of life.

f. In the spirit of collaboration we have decided to contribute to the Israeli society by helping to bridge the gaps between the Jewish and the Arab populations in Israel. We intend to launch a program for mentoring young Israeli Arab physician-scientists in research in obesity, diabetes and metabolism in our Center, in order to promote awareness, education and health in the Israeli-Arab communities.

What Can You Do To Help?

Dr. Tirosh requests your help supporting the vision of the Obesity and Diabetes Research Center at Sheba Medical Center at all levels – state-of-the-art basic, preclinical, and clinical studies. This includes help in funding consumable research and medical supplies, advanced research equipment and devices, the establishment of the unit for preclinical metabolic studies, and recruitment of personnel.

- Endowed Chair in Diabetes and Metabolism, \$200,000/year for 7 years
- The Preclinical Metabolic Phenotyping Unit – A new wing in the Preclinical Center, \$2.5 million
- The unit for translational and clinical research in metabolism – A multidisciplinary approach to promote science from ‘bench to bed side’, \$1 million
- The Center for Successful Aging with Diabetes, A multidisciplinary approach to prevent and delay the decline in cognitive and physical function in the elderly, \$1 million
- An Israeli-Arab collaboration in metabolism research – mentoring young Israeli Arab physician scientists in Sheba Medical Center in advanced research in obesity, diabetes and metabolism, \$100,000 a year for 5 years.
- Specific Research projects:
 - Screening the metabolic effects of common food preservatives - \$500,000
 - The long term effects of propionic acid exposure on body weight and diabetes incidence - \$300,000
 - Novel mechanism for the communication of fat cells in obesity – Can we gain weight and remain healthy? - \$300,000
 - Newborns of diabetic mothers – Do mothers ‘transmit’ metabolic abnormalities to their babies? - \$100,000
 - Novel mechanisms for diabetes ketoacidosis - \$60,000
 - Understanding the mechanism for increased incidence of asthma in obesity - \$60,000
 - \$1000+ (*Naming Opportunities Available for Gifts \$50,000 and above*)
- Medical Supplies (see following page): \$600-\$200,000

Please contact Adi Hepner, Development Director if you would like information on naming opportunities at adi@shebamed.org or 310.935.0135

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