

FUNCTIONAL MEDICINE UPDATE

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Diabetes: The Interconnection Between Diabetes and Obesity

This month's issue is part two of an ongoing series about type 2 diabetes and metabolic disease. Part one of this series (October 2014) featured an interview with Phillip Kern, MD, a researcher and practicing endocrinologist at the University of Kentucky. In the remaining two issues, Dr. Bland will be speaking with clinician researchers from the Joslin Diabetes Center in Massachusetts. The Joslin Diabetes Center is academically affiliated with Harvard University and has come to be recognized worldwide for excellence in diabetes prevention, research, education, and care.

Clinician/Researcher of the Month

Osama Hamdy, MD, PhD

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http://www.joslin.org/diabetes-research/osama_hamdy.html

Dr. Osama Hamdy was educated in Egypt and moved to the United States in the early 1990s to complete fellowships in endocrinology, diabetes, and metabolism. He has worked at the Joslin Diabetes Center for nearly 17 years. Dr. Hamdy studies the cardiovascular benefits of short- and long-term weight reduction in obese individuals with and without type 2 diabetes. He is a Co-Investigator of two landmark studies: the national Diabetes Prevention Program and the Look AHEAD (Action for Health in Diabetes) Study. Dr. Hamdy's interest in the study of diabetes is both professional and personal. As he explains to Dr. Bland at the start of their discussion, a strong family history of obesity and diabetes prompted him to pursue this field of research.

Dr. Hamdy has been a central figure in the creation of Joslin's Why WAIT? (Weight Achievement and Intensive Treatment) Program, the world's first clinical practice program designed to help patients with diabetes lose weight through a novel multidisciplinary approach. He is the author of a 2014 book about his work that is titled *The Diabetes Breakthrough: Based on a Scientifically Proven Plan to Lose Weight and Cut Medications*.

Since much of Dr. Hamdy's work focuses on weight loss, Dr. Bland and Dr. Hamdy begin with a discussion about dietary composition. Dr. Hamdy was instrumental in the development of the Joslin Nutritional Guidelines in 2005, and he acknowledges that dietary composition can have a huge impact

not only on weight loss but on diabetes control. The discussion becomes very specific about types of carbohydrate, protein, fat, and fiber that have been shown to be optimal in a metabolic weight loss program. Intervention using meal replacement products is also discussed, as well as new research surrounding the role of the microbiome.

The conversation moves to common biomarkers used in a clinical setting, and Dr. Hamdy offers his insights on tools such as A1c, CRP, and adiponectin. Dr. Hamdy views risk to diabetes as a continuum, and he acknowledges that numbers related to identifying diabetes, such as fasting blood sugar, are often only useful after diabetes is fully established. He is an advocate for identifying risk at a much earlier stage and starting intervention long before a diagnosis of diabetes. Much of his research focuses on insulin resistance, with an emphasis on weight loss and lifestyle modification rather than pharmaceutical intervention. REF #1-3

Issue Synthesis

As a follow-on to his interview with Dr. Hamdy, Dr. Bland highlights and synthesizes some of the points made during the interview. In keeping with his style of teaching, Dr. Bland begins with a brief mix of historical perspective and basic physiological biochemistry, and then weaves together this narrative with excerpts from studies and reviews published in the recent medical literature. He discusses the concept of dietary composition further, and provides his thoughts on the concept of Paleo nutrition. In addition, Dr. Bland expands on the concept of medical nutrition therapy, which involves giving concentrated forms of specific types of nutrients to help augment insulin sensitivity. REF #4-10

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