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## Research Digest

### Exclusive Sneak Peek

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## Low-carbing for endurance: the oxygen problem

You might have seen more low-carb endurance athletes popping up in the past few years. This trial tested a ketogenic diet in world-class athletes, compared to two different carb regimens.

## INTERVIEW: Melanie Jay MD, MS

Everyone knows obesity is a major public health issue, but what are the best ways for primary care doctors to treat it? Melanie is a researcher who studies these issues in depth.

## Can giving infants egg powder prevent allergies?

We've previously covered ground-breaking research on preventing peanut allergies in infants. This new study takes the same basic idea, and tests it with egg introduction and development of allergies.

## Boost your immune system with ... fiber?

Eat your veggies: the oldest dietary advice in the book. But what happens when you don't eat veggies, or any fiber? This rodent study looks into what might happen to your gut.

# INTERVIEW:

## Melanie Jay MD, MS



Melanie Jay, MD, MS is an assistant professor of medicine and of population health, and is board certified in internal medicine. She is the Co-director of the NYU Langone Comprehensive Program on Obesity and also serves as director of Research Collaboration and Mentoring for the Division of General Internal Medicine and Clinical Innovation within the Department of Medicine at NYU School of Medicine. Additionally, Dr. Jay holds clinical and research appointments at the New York Harbor Veterans Affairs, and she previously directed weight management programs in two public outpatient settings.

***There's a lot of bad advice out there when it comes to weight loss. What would you like most people to know based on your experience as a physician and as a researcher?***

Part of the reason that there is so much bad advice is that we still do not know why some people can lose weight and keep it off through lifestyle changes alone and others cannot. Another reason is that companies make a lot of money pretending that their diets or herbal supplements will lead to sustained weight loss, but they usually do not.

Most Americans have a lot of room improve their diets substantially by cutting down on portions, eating less processed food and sugar, eating more fruits and vegetables, and increasing their physical activity. Even if they do not lose weight by taking these steps, they will lead to better health. Generally, 5-10% weight loss will lead to better health and can prevent diabetes in high-risk individuals. This translates to 10-20 pounds in a 200 pound individual. We know that intensive lifestyle-based programs like Weight Watchers, the Diabetes Prevention Program, and the Veteran's Affairs MOVE! Programs are effective for modest weight loss, at least in the short term. If you want more, then you may need to try a weight loss medication (under physician supervision) combined with lifestyle changes and/or bariatric surgery. All the options require hard work.

***What prompted you to go into medicine, specifically obesity research?***

In college I majored in behavioral science and wanted to help people improve their health. Primary care internal medicine was a natural fit because we deal with both disease processes and psychosocial issues

to treat the whole person. During my residency in the early 2000s, obesity was just starting to be recognized as a major public health issue. Most of the diseases we were treating were due, in part, to poor lifestyles and increased adiposity. I was frustrated that we did not get specific training on how to treat and prevent obesity in our patients. Our patients felt frustrated and stigmatized by our poor counseling as well. To address this, I and two other residents in our program started a resident-run weight management program for Bellevue patients. After residency, I worked as a clinician educator and started a multi-disciplinary weight management program at another public clinic. I also developed curricula to train residents to do weight-related behavioral counseling.

After a few years in this position, I came to realize that the primary care setting was not set up well to address weight management. Primary care providers, even when trained and motivated to provide counseling, did not have sufficient time. Patients had several competing issues that required attention. Weight management programs require a lot of resources, and the majority of primary care patients do not attend due to barriers such as time, travel, lack of motivation, and family obligations. Further, many patients, even when motivated, cannot lose weight with behavioral interventions alone and we did not fully understand why there was so much variation in weight outcomes. Thus, I became very interested in researching how we can better treat and prevent obesity in primary care settings. This led me to pursue a research fellowship and to work towards becoming an independent investigator. I consider myself to be an obesity-related health services researcher interested in improving access and delivery of evidence-based care.

***How do you believe obesity as a disease differs from other common diseases?***

What makes obesity different from other diseases is that it is highly stigmatized. As a society and medical community, we often blame and stigmatize people when

“Generally, 5-10% weight loss will lead to better health and can prevent diabetes in high-risk individuals. This translates to 10-20 pounds in a 200 pound individual.”

they do not lose weight and/or keep it off. Many are incredibly motivated and initially lose weight. However, there are so many factors that may keep individuals from being able to lose weight past a certain point and then maintain that weight loss. Ghrelin rises and they become hungry. Their metabolism slows. Some are put on medications that cause weight gain. Some have food insecurity or live in food deserts where it is difficult to continue to buy healthy foods. Each person has a different story. There is not a one size fits all approach and no magic bullet.

***Could you tell us more about the study that you are currently running?***

My work is mostly focused on testing interventions

to improve how we treat obesity in primary care settings. We are doing a cluster-randomized trial of a technology-assisted health coaching intervention. It is designed to do get more patients into intensive lifestyle interventions that are currently underutilized and to provide systematic counseling to those who either cannot or will not attend those interventions. We train non-clinicians or peers as health coaches, and they use a web-based tool to facilitate counseling. The tool provides individually tailored patient-education and health coaching materials that patients get to take home in a binder. If we find this intervention to be effective, then it will be a way to address the problem that doctors and other primary care providers often do not have time to adequately treat obesity. We have a few other studies as well including one testing different models of financial incentives to promote weight loss in low-income patients in primary care.

*Apart from diet, what other factors do you believe impact weight management, and how does your study address those factors?*

In primary care, we see a lot of issues that impact weight management. These include depression, anxiety, emo-

tional eating, and chronic pain. The health coaches are trained to recognize these conditions and notify the patient's doctor if it is not being treated and/or interfering with weight loss. Many patients live in places where it is difficult to find healthy food or they cannot afford to purchase it. The health coach will put the patients in contact with various resources and benefits offered through the health systems where we are testing this intervention.

*What do you think future obesity treatments will focus on?*

There is a lot of interesting work looking at the microbiome and the brain-gut axis. Machine learning will help us to integrate massive amounts of data including biosamples (e.g. inflammatory markers, a person's microbiome), clinical data from medical records, and environmental data to better understand the variability in weight loss outcomes across different individuals. This could lead to new treatments. However, even if we were to find a magic pill that would cure obesity tomorrow, you would still need physicians and other primary care providers trained to deliver that treatment and to provide access to those who need it. If that happens, I will be there to study the best way to provide that treatment to as many patients as possible. ♦

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Dr. Jay's research focuses on improving the treatment and prevention of obesity, particularly in primary care settings. She has received funding from Veterans Affairs, the National Institutes of Health and Patient-Centered Outcomes Research Initiative, among others. Dr. Jay graduated with a bachelor's degree in the biological basis of behavior from the University of Pennsylvania and her MD and master's degree in clinical investigation from NYU School of Medicine.