



**TACKLING
THE**

OBESITY

THE LATEST
APPROACHES
TO A CHRONIC
DISEASE

BY SUZY FRISCH

Jeremiah Eisenschenk, MD, knows what it's like to put on a significant amount of weight and feel its myriad effects, from blood sugar variability and reflux to eczema, grogginess and exhaustion. He had been a college athlete who was accustomed to fueling his body with seemingly healthy food to power through daily workouts. During medical school and residency, when time and sleep were at a premium and refined grains and sugars were abundant, he gained 40 pounds.

Though he tried exercising his way back to optimal health—including running the Twin Cities Marathon—it wasn't until he switched to a low-carbohydrate,

in Minnesota. More than 30 percent of Minnesotans were obese in 2019, according to the Minnesota Department of Health, and another 36 percent of the

EPIDEMIC

high-fat diet that he lost the weight and started feeling better. On top of restoring his health and vitality, his new approach to nutrition gave Eisenschenk the tools and experience to counsel his obese and diabetic patients.

A family medicine and obesity medicine specialist at Essentia Health, Eisenschenk sees the toll obesity has taken on his patients in the form of diabetes, nonalcoholic fatty liver disease, metabolic syndrome, heart disease, sleep apnea, mood disorders and more. He seeks to provide them with hope, resources and a roadmap to regaining their health. “I get so much joy out of what I do. It is inspiring to see patients reclaiming their health and vitality as they reverse the metabolic dysfunction with intentional lifestyle change,” says Eisenschenk, a hospitalist and chief of the hospital division at St. Joseph's Medical Center in Brainerd.

There are plenty of people for Eisenschenk and other physicians to help with their weight—in fact, two-thirds of adults

state's population is overweight. For Minnesota youth ages 10-17, 10.4 percent are obese, below the national average of 15.8 percent.

As the state's population steadily gained weight and many progressed into obesity, it has become clear to physicians that the overriding sentiment to eat less and exercise more just isn't working to stem an epidemic. Instead, it requires a multidisciplinary, comprehensive and targeted approach that addresses individual's specific situations, says Ilesha Galloway-Gilliam, MD, an internist, obesity medicine and integrative medicine specialist at Hennepin Healthcare in Minneapolis.

“There is still quite a bit of misperception and misinformation about obesity and a lack of understanding about the extreme neurohormonal complexity involved,” says Galloway-Gilliam, who is co-director of Hennepin's Comprehensive Weight Management Center. “We really want to help our patients, to affirm and confirm their dignity and work on des-

tigmatizing the issue of excess weight. It's much more complicated than we understood 30 to 40 years ago when this started emerging.”

Part of that understanding includes knowledge that obesity is a chronic disease, one that is highly complex to manage and treat. Physicians must determine what factors are causing patients' obesity, identify the conditions that often accompany obesity and weigh numerous options for treating the disease. This complexity is what led Galloway-Gilliam to take on additional training to become an obesity and integrative medicine specialist so that she can spend time with patients addressing their issues in a personalized way.

“So many other diseases travel along with obesity. In a primary care model, it can be challenging because you are addressing all of the other things, like asthma or diabetes or coronary artery disease, and not the weight itself,” Galloway-Gilliam says. “I wanted to work further upstream so that I can focus on this in a way that will be helpful not only for the weight but for the other disease processes that travel along with the weight.”

As Galloway-Gilliam pursued her obesity medicine training, she realized how little she and many other physicians really understand about obesity and weight regulation. It's not an area that is covered extensively in medical school—and neither is nutrition. This can lead to the stigma that many people with obesity face, both in society and at the doctor's office, that their excess weight is their fault.

Obesity medicine specialist Carolyn Bramante, MD, often sees adult and pediatric patients who have experienced that stigma. She explains to them that obesity stems from dysregulation of the body's neurohormonal and digestive systems. This dysregulation makes obesity stubborn to address solely with lifestyle changes like diet and exercise.

“The dysregulation is caused by multiple levels of influences that are mostly out of an individual's control,” says Bramante, core faculty member in the University of Min-

nesota Medical School Center for Pediatric Obesity Medicine and Program for Health Disparities Research. “We like to think about blame for overeating or not exercising, but those drives to eat more than we need are caused by things that happened to us in utero or early in life or are influenced by the microbiome. Then layer on top of that complicated socio-economic factors that make it easier for some people to have healthy food and exercise and other people don’t. When I bring that up to patients, they seem to really appreciate it.”

As complicated as obesity is to treat, it’s not *untreatable*. There are many tools available to physicians to help patients manage and often overcome the condition—and it’s important to use them, says Charles Svendsen, MD, a bariatric surgeon and obesity medicine specialist at Allina Health, where he is director of bariatric surgery.

“If it was as easy as eat right and exercise, there wouldn’t be overweight doctors anymore. It’s not news to anyone that it’s not working because we have 70 percent of the nation overweight,” Svendsen says. “Once your BMI gets over 35, your chances of losing weight with just diet and exercise and keeping it off for a couple of years is 3 percent. That’s borne out in multiple studies. With [bariatric] surgery, sustained weight loss at the five-year mark is 80 percent.”

Medication

Before turning to surgery, many obesity medicine specialists prescribe medications to spur weight loss. These drugs are effective in shutting off hunger and food cravings in the brain. Used before bariatric

surgery, they give patients confidence that they can lose weight, says Daniel Leslie, MD, a weight loss surgeon and obesity medicine specialist at M Health Fairview, where he is system-wide director of bariatric surgery. Leslie recommends that patients use the medications both before and after bariatric surgery.

FDA-approved anti-obesity medications are very safe, and they work by disrupting the dysregulated energy regulatory systems, Bramante says. This gives patients’ behavioral changes to their nutrition and activity levels a chance to work.

Two different combinations of drugs have been effective in prompting weight loss: phentermine and topiramate (Qsymia) and bupropion and naltrexone (Contrave). In addition to these options, Bramante uses glucagon-like peptide (GLP)1 receptor agonists. GLP1s are a newer class of medications that mimic incretin, a hormone that causes the pancreas to produce more insulin after eating. Currently, it’s prescribed at 1 milligram a week, and it typically produces a 9 percent weight loss. Studies are showing that a higher dose produces 18 percent weight loss. Bramante expects the FDA to approve the higher dose soon. “For patients who respond with good weight loss with a GLP1 receptor agonist, it’s likely that they are deficient in GLP1 receptors compared to other people,” she says.

It’s also important to make sure patients aren’t taking medications that are known to cause weight gain, such as steroids, anti-psychotic drugs, antihistamines and some forms of birth control. Eliminating these medications and then using anti-obesity

medications can have a big impact on patients, Eisenschenk says. “I want to use every tool I can. When a patient has the courage to see me and talk about sensitive things like their dysfunctional relationship with food, I want to give them all of the momentum I can to get them running downhill, to achieve their goals,” he says.

“Appropriate medical therapies are the pillar of our comprehensive lifestyle-focused approach to obesity and diabetes and their shared link of insulin resistance.”

Surgery

By the time people are considering weight loss surgery, they often have been struggling with their weight for years and have tried nearly every diet, exercise program and medication under the sun. Svendsen likes to talk to patients about the three levers of weight loss: restricting *what* you eat, restricting *how much* you eat and restricting *when* you eat. Bariatric surgery—especially for people with a BMI of 35 and higher—will press two of those levers related to the quantity and kinds of food. “I think the best analogy for weight loss with bariatric surgery is that it’s surgically-aided fasting,” Svendsen says.

The two main procedures are a vertical sleeve gastrectomy and a gastric bypass. Gastric sleeves are 68 percent of the bariatric procedures in the United States; 20 percent are gastric bypasses. The remaining procedures are duodenal switches and gastric bands. Lap bands have drastically decreased, Svendsen says, but duodenal switches have increased in popularity lately. The bulk of patients prefer the gastric sleeve because it doesn’t cause malabsorption of nutrients. It also seems less drastic to people, he says, even though the procedure involves the same incisions, recovery time and required supplements post-surgery as other surgical methods.

Another reason to start with a gastric sleeve is that it leaves the digestive pathway intact while removing 70 to 80 percent of the stomach volume. This option reduces the long-term risk of complications as compared to a gastric bypass, which reroutes the digestive track away from the lower stomach and top of the intestine,

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Leslie says. The sleeve still provides for good weight loss, with patients generally losing about 60 percent of their excess weight in one year. Gastric bypass recipients will lose another 10 percent. Svendsen adds that gastric bypasses tend to work better for people who have bad reflux, significant Type II diabetes or metabolic syndrome, and for people around retirement age.

A benefit of the duodenal switch is that it is effective in controlling diabetes. Leslie typically reserves this procedure for people who have a BMI of over 50. Often, he will start patients with a sleeve gastrectomy and then later add a duodenal switch—with a rearrangement of the intestines—if someone has not lost enough weight.

Key to success after a surgery is focusing on the quality of patients’ nutrition. Svendsen recommends that these patients eat a ratio of half protein and a quarter each of non-starchy vegetables and low-sugar fruit. “When patients come in, they have been taught the starvation approach, and a large percentage of people can starve themselves for six months to a year. But that doesn’t work in the long run,” Svendsen says. “That’s where the value of surgery comes in. It gives you control over your diet for the long run, and you don’t feel like you’re starving yourself. They are taking in less, but they are also taking in better food.”

Undergoing bariatric surgery is a long process that takes three to 12 months to arrange, complete with numerous visits with a dietician, a psychological evaluation, education about nutrition and weight

loss and lining up insurance authorizations. Thirty to 40 percent of patients who consult with Leslie about surgery end up going forward, facing a long list of to-do items to accomplish and other people’s sentiments about the procedure.

“There are all kinds of opinions about weight-loss surgery and what it means. Often patients and families are messaging that weight-loss surgery is an easy way out,” Leslie says. “That’s far from the truth, and it doesn’t recognize that the vast majority of people who try to lose weight will not be able to over a several-year period of time.”

In addition, weight-loss surgery helps patients with many other chronic conditions like diabetes, sleep apnea, hypertension and joint pain. And in the COVID era, when obesity is the number-one controllable risk factor for hospital admission and death, it’s critical to help people lose weight, Leslie says. That’s one reason weight loss surgery resumed in May 2020.

Sleep, nutrition and exercise

There is a growing body of knowledge pointing to the importance of sleep in maintaining a healthy weight. It’s vital to get enough quality and quantity of sleep because without it, the body increases levels of cortisol and ghrelin, two hormones that cause weight gain, Bramante says. Sleep hygiene is one of the first areas she addresses with her patients, covering good sleep habits and other issues like sleep apnea. “I have a number of patients where the first 5 to 10 percent of weight loss can be achieved by improving sleep,” she says.

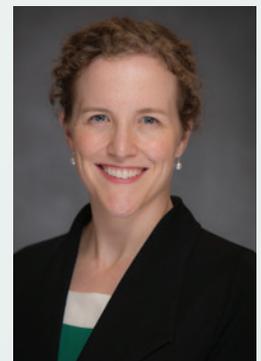
Eisenschenk makes sleep one of the four pillars of wellness he addresses with patients, along with nutrition, activity and behavioral support. When patients with obesity see him, he certainly measures BMI and body fat percentage, liver function, A1C, insulin level, waist circumference and other assessments. But he also makes a point of asking what they are eating. It’s not uncommon to hear about diets filled with sugar, starch and carbohydrates. “The most important question doctors are not asking their patients is: ‘What are you eating?’” he says.

“People don’t get overweight or obese from eating real, nutrient-dense foods,” he notes. “Improving one’s dysfunctional relationship with food, commonly refined grains and sugars, starts with recognizing the body’s hunger signals, then choosing to fuel your body with essential proteins, fats, vitamins, minerals and water. There is no such thing as an essential carbohydrate.”

Using evidence-based guidance, he coaches patients to adopt a low-carbo-

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CAROLYN BRAMANTE, MD: CORE FACULTY MEMBER: UNIVERSITY OF MINNESOTA MEDICAL SCHOOL CENTER FOR PEDIATRIC OBESITY MEDICINE AND PROGRAM FOR HEALTH DISPARITIES RESEARCH



hydrate, high-protein diet, whether it's a ketogenic or paleo regimen. Comparisons of multiple randomized controlled trials show that restricting carbohydrates is more effective than restricting fats for prompting weight loss, improving insulin resistance and other markers of metabolic health, such as fatty liver. Low-carbohydrate diets are cited by the American Diabetes Association as having "the most evidence for glycemic control." Once patients get established on the recommended diet, they report that their hunger is controlled, cravings are gone and they have more energy and feel more alert, Eisenschenk says.

"With therapeutic carbohydrate restriction, we consistently see decreases in waist circumference, fat mass, glycemic control, insulin and lipid levels and blood pressure," Eisenschenk says. "Diabetes and obesity are diseases of nutrition and can be reversed with effective nutritional interventions."

Another effective way to help patients lose weight—or as a complement to a low-carb diet—is to adopt intermittent fasting. Svendsen is a big fan, especially a structure of 16 hours of fasting paired with an eight-hour window for eating healthy food. Intermittent fasting targets obesity by restricting the amount of time that insulin levels are elevated after eating, removing people from the roller coaster of blood sugar spikes and crashes. It's very difficult to lose weight with elevated insulin levels. Intermittent fasting also improves metabolism, lowers blood sugar and reduces inflammation.

"We're genetically set up to deal with fasting. Our body knows what to do," Svendsen says. "It's safe to do and cheap, and you don't have to pay for a monthly subscription to Weight Watchers or meal plans. It's more along the lines of intuitive eating and eating when you're hungry."

Clinicians have a big role to play in preventing obesity. Focusing on families and using diabetes prevention programs are a good place to start, says Teresa Ambroz, RDN, manager of the diabetes and health behavior unit in the Minnesota Department of Health Center for Health Promotion. About one-third of people have pre-diabetes—and many don't even know it. Preventing a shift into diabetes takes los-



"WE CAN TAILOR YOUR PHENOTYPE OR OBESITY GROUP TO [YOUR] INTERVENTIONS, AND YOU WILL RESPOND BETTER. FROM USING THIS TESTING, PATIENTS ARE LOSING TWO TIMES MORE WEIGHT THAN IF THEY JUST GO FOR THE STANDARD INTERVENTION."

ANDRES ACOSTA, MD, PHD: ASSISTANT PROFESSOR OF MEDICINE; MAYO CLINIC SCHOOL OF MEDICINE AND SCIENCE

ing 5 percent to 7 percent of body weight, focusing on healthy eating and exercise and addressing the social determinants of health that affect weight. The state has 40 diabetes-prevention initiatives across Minnesota that work with community partners on lifestyle-change programs, an effective way to help people manage their weight and prevent diabetes, Ambroz says.

Future care

Precision medicine is seeping into obesity care, with the acknowledgment that the condition has multiple causes. By diagnosing the origins of individual's obesity, it becomes possible to target treatments to these causes. Andres Acosta, MD, PhD, an assistant professor of medicine at Mayo Clinic College of Medicine and Science and a consultant in gastroenterology, hepatology and obesity medicine at Mayo Clinic, explains that there are four different sub-groups or phenotypes for obesity:

- Abnormal satiation, or hungry brain—signals of fullness either do not travel from the stomach to the brain or the brain does not receive them.
- Abnormal satiety, or hungry gut—the sense of fullness after eating does not last.
- Emotional hunger—high levels of cravings, anxiety and depression cause some to eat in response to positive or negative emotions.
- Abnormal energy expenditure, or slow burn—the metabolic rate is abnormally slow, often coupled with low muscle mass.

Currently, Mayo physicians can put patients through extensive testing to determine the origin of their obesity. Acosta's Precision Medicine for Obesity Lab, and a spin-off company called Phenomix, are working on diagnostics and treatments that will more quickly identify the underlying issues and causes.

Using an "omics" approach that evaluates hormones, DNA, proteins and metabolites, Acosta and his team can be more objective in assessing patients and selecting treatments. Then they use existing tools for fighting obesity, such as medications targeted to specific conditions, a vagal nerve block, bariatric surgery and/or procedures like endoscopic sleeve gastropasty, intensive diet and exercise regimens and behavioral therapy.

The difference is, instead of using a trial-and-error method, "we can tailor your phenotype or obesity group to these interventions, and you will respond better," Acosta says. "From using this testing, patients are losing two times more weight than if they just go for the standard intervention."

For example, when using the phenotype approach to selecting an anti-obesity medication, patients lose 16 percent to 18 percent of their body weight, compared to 8 percent to 9 percent if a medication is chosen without this knowledge, Acosta says.

Making headway against obesity will require taking a comprehensive approach that is targeted to patients' individual circumstances and situations. There is a great deal of variance in what causes and