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Making good decisions about diet: Weight loss is not weight maintenance

WITH AN ESTIMATED 60% OF US adults overweight or obese, and nearly 1% of the population becoming obese each year,¹ Americans are understandably concerned about, if not obsessed with, losing weight or maintaining weight loss.

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In the interests of health^{2,3} and vanity, US adults spend approximately \$30 billion a year on weight-loss goods and services.⁴ This figure represents consumer dollars spent on all efforts at weight loss or weight maintenance, including low-calorie foods, artificially sweetened products, books, and other publications on dieting.

Though some of these products are based on good science and are safe and effective, most are either useless, untested, or dangerous. Desperate dieters, however, are easily seduced by anecdotal accounts of quick weight loss or promises of easy success.⁴

In this issue of the *Cleveland Clinic Journal of Medicine*, Volek and Westman⁵ argue that the time has come to reconsider the very-low-carbohydrate diet. While I cannot quibble with their call for more research into the basic science of nutrition, there is still much danger in the widespread fad enthusiasm for these diets.

Lack of data on the long-term safety and effectiveness of very-low-carbohydrate diets makes their medically unsupervised use very troubling, especially by those who may have a preclinical or “silent” condition or illness. The safest course at this time is a patient-

physician partnership that makes the best use of what current medical science has to offer for weight loss and weight control.^{6,7}

■ WE ALREADY HAVE EFFECTIVE DIETS

The search for an optimal diet plan is almost a national pastime, yet fewer than 20% of those attempting to lose weight follow the most widely recommended weight-control diets—low in saturated fats and high in fruits, vegetables, and high-fiber-containing carbohydrates.⁸ This, in spite of considerable evidence that these diets are safe and effective for losing weight, maintaining weight loss, and promoting health.^{9–12}

According to the authors of a recent scientific review of popular diets: “The American public needs to be told (and believe) that diets are not followed for 8 days, 8 weeks, or 8 months, but rather form the basis of everyday food choices throughout their life. A diet high in vegetables, fruits, complex [carbohydrates] (whole grains and legumes), and low-fat dairy is a moderate-fat, low-calorie diet that prevents weight gain, results in weight loss and weight maintenance. It is associated with fullness and satiety. It reduces risk of chronic disease. It is fast, convenient, and inexpensive.”¹³

■ TO LOSE WEIGHT, EAT LESS THAN YOU BURN

Fat—if eaten in excess of energy needs—will make a person fat. So will excess intake of carbohydrates. Maintenance of stable body weight is achieved via a biological process known as *energy homeostasis*, which matches cumulative energy intake to expenditure over

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time. Obesity is the most common disorder of energy homeostasis, and because of its increasing prevalence and strong links to metabolic and cardiovascular diseases, it is a leading cause of mortality worldwide.¹⁴

Energy homeostasis involves humoral signals such as leptin that create a circuit between peripheral tissues involved in energy storage and utilization and central networks controlling energy balance. Understanding of how defects in this homeostatic system cause obesity is critical for the development of new, more effective forms of obesity therapy.^{15,16}

The evidence-based guidelines issued by the National Institutes of Health¹⁷ call for weight loss by simultaneously restricting caloric intake and increasing physical activity.⁸ Many studies demonstrate that obese adults can lose about 1 lb per week and achieve a 5% to 15% weight loss by consuming 500 to 1,000 kcal a day less than the caloric intake required for the maintenance of their current weight.

■ LOW-CARB DIETS LACK LONG-TERM EVIDENCE

Very-low-carbohydrate diets result in faster weight loss, but lower rates of long-term success. Low-carbohydrate, ketogenic diets have been well studied in the short term. The challenge is to develop safety and efficacy data for the long term.¹⁷

In a recent report, Reddy et al¹⁸ found that very-low-carbohydrate diets delivered a marked acid load to the kidneys that increased the risk for kidney stone formation and the potential for bone loss contributing to osteoporosis. There was a twofold increase in urinary saturation of undissociated uric acid and an increase in urinary calcium levels.

A key point about very-low-carbohydrate diets for weight loss is that the optimal weight-loss diet is not necessarily the same as the optimal weight-maintenance diet that promotes

health and long life.^{13,19–23} The important difference is that weight-loss diets involve eating fewer calories than one expends. The metabolic consequences of this negative energy balance are themselves quite large, and they alter the metabolic effects that fats and carbohydrates have when a person is trying to maintain his or her weight.

■ THE ALLURE OF FAD DIETS

Despite extensive data showing that the optimal diet for weight maintenance differs from that for weight loss only in the balance of caloric intake and energy expenditure,^{24–26} skeptics within the scientific community claim that the balance of food groups and the fat and carbohydrate content optimal for weight control are unknown.

Scientific evidence supporting the safety and effectiveness of very-low-carbohydrate diets is limited.¹⁹ Nevertheless, there has been a resurgence of diets promoting low carbohydrate intake. Most of these plans are extreme in that they restrict a whole category of food. Moreover, many diet books promise their readers weight loss by simply adjusting percentages of dietary fats, proteins, and carbohydrates, without paying enough attention to total caloric intake.

Scientific studies that focus on foods eaten daily by people who are not on weight-loss diets provide considerable evidence that diets low in saturated fats and high in fruits, vegetables, and complex (low glycemic index) carbohydrates are safe and effective for maintaining weight and health.^{10,12,17–29,27–29} But studies of weight-loss diets, which generally involve small numbers of subjects and are of short duration, are far more controversial. It would be very premature, and poor science, to conclude that the current guidelines for a healthy diet are in error because of some reports that a different kind of diet is effective for short-term weight loss.³⁰

Diets are not for weeks or months, but for life

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