

Wellness, Weight Loss, and Disease Prevention With the 5 Keys to Healthy Lifestyle Change

By Tom Rifai, MD

Consistent with robust and emerging evidence from randomized controlled trials (RCTs) and observations of populations characterized by longevity,¹⁻³ as well as through thousands of patients' worth of clinical and personal experience as a physician and recovering overweight binge eater, I have learned how powerful therapeutic lifestyle is as a medicine. Lifestyle can drive, treat, or prevent many of the biggest contributors to premature death and reduced quality of life, particularly in the context of disease epidemics resulting from sedentariness and the standard American diet. For example, type 2 diabetes and atherosclerotic cardiovascular disease (ASCVD) risks could be reduced by as much as 90%, especially in at-risk populations, by adopting a therapeutic lifestyle basis to medical care.⁴

Since as early as 1993, the top 3 causes of premature death have been related to what is done with forks (unhealthy food), fingers (smoking), and feet (low levels of physical activity), and these 3 factors alone accounted for 80% of premature death in the United States.⁵ The US Preventive Services Task Force (USPSTF) now recognizes 3 areas of metabolic health for which intensive lifestyle interventions may be effective: cardiometabolic risk (eg, dyslipidemia, hypertension, type 2 diabetes), prediabetes, and obesity.⁶⁻⁸

Therapeutic lifestyle change (TLC), especially in at-risk populations such as the estimated 30.3 million adults with diabetes and the 84.1 million with prediabetes⁹ and the additional millions with metabolic syndrome and overweight or obesity, has the potential to massively reduce lifestyle-driven metabolic disease-related costs and to markedly reduce lifetime risks for premature death and disability from cardiovascular events, cancers, dementia, chronic kidney disease, osteoporosis, and more, while at the same time improving quality of life with beneficial effects on mood, pain, and function. In short, lifestyle medicine is, or should be, the first line of defense against most modern chronic diseases.

With so many Americans at cardiometabolic risk, it is important that primary care providers identify lifestyle-driven risk factors and prescribe appropriate therapy, primarily lifestyle-based therapy. Addressing risk factors through lifestyle modification early in the continuum of disease risk could substantially improve patients' quality and quantity of life.

MEDICAL INTERVENTION: BENEFITS AND RISKS

If the healing power of even modest lifestyle change could be encapsulated in a pill, it might easily be the biggest blockbuster

The 5 Keys to Healthy Lifestyle Change

KEY 1: NUTRITION (NOT "DIET")

Understanding how food intake can benefit or harm physical and psychological health and its ability to maximize quantity and quality of life is critical. This key must be addressed in a way that is practical as well as satisfying and enjoyable to the patient. Other keys that help support the Nutrition key are Environment, Mind Matters, and Accountability.

The majority of food volume (ie, total weight of daily food intake) should be composed of (or be shifting toward at a rate at which the patient feels comfortable) minimally processed or unprocessed raw fresh, frozen, or otherwise appropriately stored plants. These include whole fruits, whole vegetables (including low to moderate amounts of starchy vegetables like potatoes

prepared with little or no added fat or salt), cooked legumes, and cooked whole grains. The high intrinsic water content of these foods makes them calorie-light, providing satiety with relatively few calories. They also have high nutrient density (especially intact fiber and potassium) and are low in sodium.

Plant-based foods that are more calorie-dense (ie, more calorie-concentrated) usually are dry and crunchy. In reasonably sized portions (15-30 g per serving) and reasonable frequency, they also can be part of a healthy, calorie-balanced, plant-rich eating pattern (full disclosure: my own eating pattern is what I prefer to call "plant-predominant flexitarian" pattern). Examples of calorie-dense plant-based nutrition sources include whole-grain and sodium-light breads and crackers, air-popped

drug in the history of humankind. However, treating metabolic conditions with medications is fraught with balancing benefit and risk. For example, statins can effectively reduce ASCVD risk in patients at elevated risk, but they are associated with an increased risk of myopathy and may increase the risk of type 2 diabetes. This occurs not only as a result of direct toxicity,¹⁰ but also simply because many people use statins as a rationalization to eat more, which blunts the drugs' benefits.¹¹ β -blockers may lower blood pressure in patients with hypertension, but some also may increase the risk of type 2 diabetes and pose a challenge to patients who are trying to lose weight, possibly by reducing tolerance to brisk physical activity.

In one of the largest RCTs of TLC, the Diabetes Prevention Program (DPP),² intervention with metformin reduced the occurrence rate of type 2 diabetes by 31% in a high-risk population of patients with prediabetes. In contrast, a moderate 7% weight loss and 150 minutes per week of moderately intense physical activity resulted in a 58% risk reduction. It is also notable that metformin, despite its low-cost generic status and solid safety record, is prescribed to less than 10% of persons with prediabetes who qualify for it under American Diabetes Association guidelines. And if any drug could challenge lifestyle for effective disease prevention, it is metformin. Yet follow-up data more than 10 years after the DPP showed that participants assigned to lifestyle intervention still had a 34% reduction in the risk of type 2 diabetes vs participants in the placebo-usual care group²—still about double the benefit of metformin, our best disease-prevention drug in terms of cost, risk, and effectiveness combined. And the participants in the lifestyle arm who started the trial at age 60 years or older had a nearly 50% reduction in the risk of type 2 diabetes 10 years later, along with substantially improved quality of life.² And metformin has associated risks, albeit mild ones, including gastrointestinal tract intolerance and vitamin B₁₂ insufficiency.¹²

THERAPEUTIC LIFESTYLE CHANGE

Establishing long-lasting TLC after what might have been decades of a metabolically risky lifestyle is a long-term process, far more like a marathon than a sprint. This is not to say that coming out of the gate strong (ie, losing weight rapidly at first) is bad; it is not. Nevertheless, while dramatic initial behavior changes and their associated results increase the odds for longer-term success,¹³ the chances in the United States and most Westernized societies for further and sustained improvements in longevity are low, due in large part to potent environmental factors pushing toward metabolically risky behaviors. These factors include a dramatic shift from labor jobs to a more automated and chair-based work environment, with meaningful physical activity no longer required to sustain life; the ubiquity of highly calorie-rich and processed (CRAP) foods and beverages leading to increases in calorie and sodium intake. And to pour salt into the proverbial wound, there has been a concom-

popcorn, low-sodium whole-grain cereals, and nuts and seeds including nut and seed butters.

Animal-based sources of nutrition can have a supporting role in plant-predominant eating patterns. But a healthy whole-food-based vegan eating pattern can be very healthy, with reasonable caveats (eg, supplementation of vitamin B₁₂ and, possibly, iron, algae-based omega-3 fats, and zinc). These concerns should not deter a health care provider from supporting a patient's goal of a calorie- and sodium-appropriate healthy vegan eating pattern.

It is very important that all sources of nutrition, whether plant- or animal-based, be healthfully prepared without undue added calories (eg, from fats, sugar, or sugary liquids) or salt (eg, from sodium-rich sauces and spreads). Intake of healthy plant-based food sources such as whole fruits, vegetables, legumes, and cooked whole grains could easily total 1000 g or more daily, along with regular portion-controlled amounts of raw or roasted nuts or seeds and touches of nontropical plant oils such as olive oil. Note that oils are the most calorie-dense food on earth, and careful portion sizing is very important.

Moderate amounts of lean, low-sodium, animal-based nutrition (preferably humanely raised without unnecessary antibiotics) is compatible with health and longevity if in balance (ie, appropriate modest portions and frequency). Of course, a big challenge in the United States is trying to achieve as little intake of CRAP foods and empty-calorie beverages (eg, sugar-sweetened soda, sugar-sweetened tea, alcohol, creamed and/or sweetened coffees, sports drinks, and juices and juice drinks) as is reasonably possible.

KEY 2: PHYSICAL ACTIVITY (NOT JUST "EXERCISE")

All forms of physical activity provide a benefit to metabolic health, given the chronically high levels of sedentary time in the United States. All practical movement, such as parking at a practical but meaningful distance from destinations, having walk-and-talk business calls or discussions, holding standing meetings, and taking the stairs whenever possible, are important. Evidence suggests not only that optimizing physical activity is about structured (and time-limited) exercise, but also that improving nonexercise activity time can meaningfully impact health and wellness.

The word *exercise* may elicit anxiety in some individuals. As such, counseling patients to begin to increase activity in simpler, more practical nonexercise-based ways that they perceive as more achievable may be a better starting point. Making small, consistent adjustments can result in important differences in long-term metabolic health. Although it is an arguable point, movement trackers (eg, pedometers, fitness watches) may help if their use is guided by good counseling.

Remember that exercise per se is a modern invention, since

human existence no longer requires much activity for immediate survival. Recent research on the isolated Tsimané hunter-gatherer-foragers of the Bolivian Amazon jungle (who have been found to have the lowest rates of coronary artery disease ever recorded) revealed an average of only 1 hour of sedentary time during waking hours. Our more common modern Western lifestyles have exponentially higher levels of sedentary time.

As such, it is likely best to think of physical activity as 3 separate areas of concern—accumulated sedentary time, overall physical activity, and formal structured exercise time for the singular purpose of improving physical fitness—and give attention to all 3 at the appropriate time in a patient's lifestyle-change journey in order to optimize the odds of achieving disease-free longevity, physical vitality, wellness, and personalized optimal body composition (in contrast with body mass index-driven weight goals). Cutting total sedentary time in half by breaking up continuous sitting time with intermittent bouts of standing and moving along with a reasonable amount of dedicated weekly brisk physical activity are the general and practical principles of optimizing physical activity.

KEY 3: MIND MATTERS

Mind Matters refers to issues related to psychological and spiritual well-being. Short of isolating oneself to an environment that literally forces physical activity and nutrient-dense, calorie-controlled food intake (think of the Tsimané people, or Tom Hanks' character in the movie *Cast Away*), this is arguably the most important of the 5 keys, particularly considering this is the domain where the stages of readiness for change reside.

Even some of the most motivated people find that they cannot muster the motivation or remove the mental obstacles to change. It may be a long history of managing stress poorly (typically with unhealthy food, drink, or smoking). It simply may be self-image issues rooted in childhood and the subsequent discomfort with the assertiveness skills necessary to appropriately convey one's needs. Even modifying a meal order to reduce added salt, sugar, or fat at a restaurant can induce a notable level of anxiety in many otherwise highly motivated people.

Health issues that fall under the "Mind Matters" key include stress management skills, modulating mood with food intake ("emotional eating" or "stress eating"), other forms of maladaptive eating (eg, binge, purge, hedonic), unaddressed or residual depression/anxiety, unattended grief/loss, and suboptimal sleep. Any of these factors can affect other key domains of successful TLC. For instance, poor stress-management skills can lead to comfort-food intake, smoking, drinking, or substance abuse. Suboptimal sleep can lead to fatigue, low motivation to exercise, or poor stress tolerance, which increase the risk of eating beyond hunger or eating for reasons other than hunger. In that spirit, poor sleep volume or quality may lead to having

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itant marked increase in portion sizes. As such, TLC requires multiple face-to-face encounters for strategizing and planning. It also very much means accepting inevitable "slips" as opportunities to learn how to continue to hone skills in achieving and maintaining TLC for the long term rather than excessively worrying about any single event or moment in time.

Establishing effective TLC is analogous to learning a martial art. Individuals need to be motivated, because they will be bruised in "sparring sessions" on their way to better health. And in the process, they will go through a series of stages, similar to progressing from a white belt to a black belt, before achieving a self-sustainable level of skill and confidence.

Evidence suggests that at least 2 years of maintaining comprehensive lifestyle adjustment is necessary before the odds of long-term success greatly improve.¹⁴ In that time, individuals will need multiple episodes of healthy lifestyle training, ideally including regularly scheduled 1-on-1 or group education/counseling sessions, mental and physical exercises (such as lifestyle education sessions, grocery shopping tours, cooking demonstrations, dining experiences with professionals, and mindful eating exercises), cognitive behavioral therapy, and biochemical and physical testing that reflects achievements, signifying improving levels of proficiency.

Numerous experts and committees, including the USPSTF, the American Heart Association (AHA), and the American College of Cardiology (ACC), have recognized that TLC is best achieved through an intensive lifestyle intervention (ILI), where *intensive* refers to the time spent on developing new behaviors and skills rather than a myopic focus on diet plan of calorie restriction.^{6-8,15}

In 2013, the AHA and ACC published ILI guidelines that describe comprehensive approaches that include nutrition, physical activity, and behavior therapy delivered over a minimum of 6 months by trained interventionists such as registered dietitians, psychologists, exercise specialists, and health counselors.¹⁵ Such time-intensive and comprehensive approaches are described as being more effective for achieving meaningful TLC than usual care alone.

USPSTF recommendations note that to be an effective ILI, at least 12 and up to 26 sessions must occur within 1 year, and that the most effective high-intensity interventions include “multiple behavioral management activities, such as group sessions, individual sessions, setting weight-loss goals, improving diet or nutrition, physical activity sessions, addressing barriers to change, active use of self-monitoring, and strategizing on how to maintain lifestyle changes.”⁸

Whether primary care providers attempt to provide ILI themselves (a challenging undertaking in our disease-care health care paradigm, to say the least) or refer patients to a high-quality, structured program, it is critical that they stay connected with their patients and understand the multiple aspects of lifestyle change that their patients will face while providing good health-coaching skills in the process. For TLC to be effective, both the patient and the health care provider must expect the process to take time and to require that multiple barriers to change be addressed. Patience, in this instance, is truly a virtue.

5 KEYS TO HEALTHY LIFESTYLE CHANGE

To help patients and providers in the process of TLC, I have developed the 5 Keys to Healthy Lifestyle Change (**Sidebar**). The keys represent 5 different but interrelated and interdependent areas of focus: nutrition, physical activity, mind matters (psychological), environments (food, social, and physical), and accountability (largely reflecting monitoring and feedback). Ignoring any 1 of them places at risk the patient’s odds of long-term TLC success. Conversely, successfully addressing 1 key will subsequently improve at least some of the others. For instance, by addressing food choices available in the home (environment), or by addressing conflict-resolution skills (mind matters), nutrition typically improves. And engaging in regular brisk physical activity can help improve mood, outlook, and confidence (mind matters).

Organizing TLC into these 5 key domains can help patients and health care providers avoid getting lost in a sea of overwhelming interdependent but separate areas, each of which requires somewhat separate skill-building and attention. The 5 Keys can guide health care providers and patients toward finding where their energy is best focused and finding where their “reality meets science”—that is, translating science-based therapeutic lifestyle evidence into practical, achievable, step-by-step clinical applications.

By organizing history-taking and counseling into the 5 Keys, health care providers can be more effective, focused, and efficient in treating their patients. Each of the 5 Keys to Healthy Lifestyle Change should be addressed throughout the months of intervention and health coaching in order to increase the likelihood of establishing long-lasting healthy lifestyle change. Visits may focus on 1 very critical key or may focus on small achievable points within several keys. Ideally, action plans should be written so that patients can take the plans with them.

little daily energy left for accountability mechanisms such as self-monitoring of food, physical activity, and weight.

Unattended grief can be serious. Many times we have seen patients who have started phase 1 (a 6-month, multidisciplinary care TLC experience) of our program immediately after an anniversary of or within the first year after a devastating loss of a child, spouse/partner, or close friend. Commonly, all goes well over the initial 6 months of phase 1, after which we encourage phase 2, a second 6 months of multidisciplinary TLC support, totaling a full year of intensive lifestyle intervention, for long-term success. But engaging for a full year frequently is not possible for a number of reasons (eg, cost, travel). Typically, we then see them again several months after the anniversary of their loved one’s death, having not received the necessary support through the process nor help with the skills and emotional support capital necessary to successfully navigate the anniversary.

Ultimately for many patients, dealing with emotional and behavioral health issues is of primary importance, or else the emotional energy needed to build on the other keys may not be adequate for a successful journey to full health and wellness of the body, mind, and soul.

KEY 4: ENVIRONMENT

This is conceptually the most important key. If our environment were to force us to eat healthfully and to be physically active (like the Tsimané people), then accountability becomes irrelevant, and mind matters are subsumed by the focus on the imperative to forage, hunt, and gather, or die. But this scenario is not where modern reality meets science.

Most people wrongly believe that their knowledge of nutrition plus their willpower should be adequate to substantially change long-term food intake, and that the influence of the foods that are readily available to them and the influence of their social environment are minor issues or nonissues. Nevertheless, we can see the positive results of a combination of high levels of physical activity, low sedentary time, and healthy, minimally processed, plant-predominant eating patterns. Beyond the Tsimané people, there also is evidence of wartime rationing lowering the risk of type 2 diabetes and coronary artery disease. But moving to the Amazon jungle to live as hunter-gatherers or moving to a war zone are simply concepts to demonstrate that our environments are crucial.

Most patients do not understand the limitations of “improving willpower” and the need to reduce exposure to metabolically risky foods at home, at work, and (for people who travel frequently as part of their job or family responsibilities) in the car; to acquire the skills needed to manage social pressures to overeat, which may be most significant in the home environment (eg, spouse, life partner, children, etc); and to

learn how to leverage otherwise undetected opportunities to be physically active in their daily environments (take the stairs, have walk-and-talk or standing meetings, park at a distance from destinations, etc). For long-term and even short-term success, it is critical to help patients modify their food environments at home, at work, and in the car to help make healthy choices their default choices.

The problem that makes this key so critical is summed up with the aphorism, “When in Rome, do as the Romans do.” Most of our “Rome,” the United States, promotes the standard American diet, CRAP foods, and a sedentary lifestyle. The basics of this key include making whole fruits and vegetables, legumes, and whole grains easily accessible in every home. It also is critically important to limit if not eliminate exposure to CRAP foods at home, at work, and in the car.

Note, however, that this is a strategy not to eliminate but simply to meaningfully and significantly reduce the intake of metabolically riskier foods. A true modest and occasional indulgence is absolutely not the problem and is quite compatible with healthy longevity. And a multitude of opportunities are available for modest indulgences such as parties, weddings, holidays, and vacations. Enjoying an exception-to-the-rule food is far more likely to remain exceptional if these foods are available only exceptionally.

KEY 5: ACCOUNTABILITY

Laws, regulations, and other serious social accountability protections keep the use of alcohol, cigarettes, and illicit drugs under some modicum of structured control and accountability. Now consider the omnipresence of CRAP foods and beverages, which increasingly are being discovered to have similar high-dependency and even addictive risk characteristics. Also consider that there are nowhere near the social prohibitions to overeating as are so clearly demarcated for alcohol abuse, smoking, and illicit drug use. In fact, there are socially sanctioned competitive eating contests that reward episodes of binge eating. The talons of CRAP foods, which comprise at least 58% of US calorie intake, continue to dig deeply into our culture. Many of these CRAP foods and beverages are easily available even in hospitals in such overwhelming amounts as to invoke embarrassment and even shame in me as a healer.

This reinforces the need to be willing to subject oneself to a TLC program and/or self-monitoring (eg, food diary, fitness tracker, weekly weighing) as a form of accountability to oneself. The Western food and physical activity environment combined with stress and sleep deprivation lead to the twin epidemics of type 2 diabetes and overweight/obesity and drive the need for accountability-based, structured, multidisciplinary TLC programs. ■

CONCLUSION

Successful long-term TLC is a complex and prolonged process, and having a guide to organize it is important. Time constraints typically make it impossible for most practitioners to focus on all of the necessary core aspects at once, and dividing process into multiple meetings and using the 5 Keys to Healthy Lifestyle Change to guide each meeting is a practical way of addressing this complex process. Addressing just 1 key will still likely have some downstream benefit to 1 or more of the other keys. Ultimately, understanding all 5 of these critical separate but interdependent keys of TLC can help you better manage your patients on their journey to a healthy, lower disease-risk lifestyle. ■

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