All Americans, to paraphrase the great Irish comedian, Tommy Tiernan [17], belong to one of two categories—those who work out too much and those who weigh too much.

Like most comic observations, this is an exaggeration, but based on truth. For one thing, this classification accurately describes many patients with musculoskeletal complaints.

Although “overuse” and “overweight” are well-represented tropes in orthopaedic clinics, the basic science of their respective pathologies is not represented equally in orthopaedic curricula. Orthopaedic educators are more comfortable talking about collagen and chondrocytes than leptins and lypolysis, evidently. In general, obesity is absent from orthopaedic syllabi, except for the occasional and reproachful mention of its harmful effects.

It is critical that the next generation of orthopaedic surgeons learn about obesity and its treatment. The first reason is plain. Our patients not only present with obesity, but they are also burdened by it [15]. Obesity is a dominant risk factor for back pain [19] and arthritis [21] and is a risk factor for complications from surgical treatments [17, 19]. Thus, treating obesity is an orthopaedic treatment—even if we do not implement the treatments ourselves.

A second reason relates to our somewhat unique role in medical practice. Orthopaedic surgeons are specialists but also provide some frontline care. That is, many of our injured or achy patients do not routinely see a physician. For them, the orthopaedic surgeon treating their knee sprain or shoulder impingement is the only doctor they will see that year. Because of that, we might hear about general medical concerns as well. In my experience, questions about diet and weight loss are the most common.

But there is an even more important reason orthopaedic surgeons should learn about weight loss. Studying the science of obesity, especially its variegated recent history, yields an important lesson in humility, for the dietary dogmas of the just-recent-past have been upended [21].

When I was a medical student in the 1980s, dietary fat was vilified as the main cause of obesity. A corollary was that high levels of dietary cholesterol are responsible for high serum cholesterol. These turned out to be less than completely true. The human liver is more than happy to synthesize fat and cholesterol from a carbohydrate substrate [16].

When I was a medical student, the inarguable claim that an energy imbalance (eating more calories than burned) is present when people gain weight gave rise to weight-loss prescriptions like “Eat Less!” or “Exercise more!” Basically, patients were exhorted to switch their Tommy Tiernan type. This turned out to be bad advice because it neglected why the imbalance was present. Attempts at losing weight by eating less or exercising more will fail when hormones command the body to store fat.

When I was a medical student, Robert Atkins of the eponymous Atkins Diet [3] was denounced in class as a quack. This turned out to be a poor decision by the school, not only because Dr. Atkins was a graduate of my alma mater, and might otherwise have
made a large donation, but because the Atkins Diet—unlimited bacon and eggs for breakfast, as long as you skip the potatoes and toast, for example—has been shown to improve metabolic markers as well as help people lose weight [18].

In short, learning about obesity promotes intellectual modesty. Yes, some of our treatments are among the most long-standing in medical history. The Hippocratic method of reducing a shoulder dislocation that we still use dates back to, well, Hippocrates. Even our modern surgical procedures have demonstrated endurance. The hips we install in 2020 look very much like the hips Sir John Charnley introduced in the 1960s. This persistence justifies one of the most long-standing in medical history.

The Hippocratic method of reducing a shoulder dislocation that we still use dates back to, well, Hippocrates. Even our modern surgical procedures have demonstrated endurance. The hips we install in 2020 look very much like the hips Sir John Charnley introduced in the 1960s. This persistence justifies one of the most long-standing in medical history.

The only thing that will need to be updated is the designation of the correct, credited answer.

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Dr. Bernstein’s commentary emphasizes the value of nutrition education during medical training to provide more holistic care to our patients. Dr. Bernstein can rest assured that I agree with him on this. (By way of full disclosure, I once had Dr. Bernstein as a preceptor.)

In medical school, I implemented a hands-on nutrition education elective for 4th year medical students. The elective sought to equip soon-to-be doctors with a framework for how to approach nutrition and diet with just about any patient. The goal was not to turn medical students into dietitians, but rather to provide them with the tools to make feasible, impactful dietary suggestions to their patients. We found that medical students who took the course felt more confident in their ability to discuss nutrition with their patients. These students also felt that merely broaching the topic with patients lead to meaningful change [20]. The US Preventive Services Task Force previously came to the same conclusion [9].

But will board exam questions motivate residents to learn about such a complex topic? For example, while the Atkins diet—also known as the ketogenic diet—might yield short-term weight loss, studies lasting longer than a year have not shown a clinically significant difference in weight loss compared to low-fat diets [11]. There is no one-size-fits-all diet, and what works for some might not work for others. In other words, adherence to any diet, not one particular diet, makes the difference [10].

ABOS would be hard pressed to simplify these obesity and weight loss concepts into a couple of board exam questions. The real reason ABOS should include nutrition in its curriculum is because when patients lose weight prior to surgery, they have better outcomes afterward [13]. With the right nutrition education, orthopaedic surgeons may feel empowered to have discussions about diet and weight loss with their patients, or at the very least, refer them to providers with the appropriate clinical expertise. That said, if including nutrition on the boards spurs noon conference discussions, inspires residents to seek the input of dietitians, or ultimately motivates residents to talk to patients about nutrition—that I can get behind.

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I commend Dr. Bernstein for suggesting that the ABOS add diet-related questions to tests for orthopaedic residents and registrars. Diet and nutrition are central to the management of lifestyle-related diseases including obesity, and orthopaedic surgeons, as with all health professionals, should be aware of current approaches to diet and weight loss [7]. Nutrition and behavior change should become a core competency for healthcare professionals who treat patients with (or who are at risk for) nutrition-related chronic disease(s) [2, 8].

In some countries, medical nutrition education aims to provide foundational nutrition knowledge upon which physicians build throughout their medical careers [4], but internationally, medical
students report deficits in their nutrition knowledge, skills, and confidence to counsel patients on this topic [7]. Equally concerning is that these deficits continue into medical practice and affect physicians’ confidence to implement nutrition care [1, 7]. While the topics taught in medical schools may be informed by curriculum guidelines, the integration of nutrition into the curriculum is at the discretion of individual medical schools. This discretion influences the quantity and quality of nutrition education provided.

Poor nutritional intake and nutrition-related health conditions, such as obesity, cardiovascular disease, and hypertension, are very common in the United States, and these conditions can influence the treatment and care provided by orthopaedic surgeons. All physicians should recognize when to refer a patient to other health professionals, such as a dietitian, for detailed nutrition care. The myriad influences on food choices and eating behaviors, along with conflicting and confusing nutrition messages in the media, make patients’ food choices challenging and tend to work against physicians providing nutrition care. Dietitians are skilled in assisting patients to adapt existing diet and lifestyle behaviors to make healthier food choices and lifestyle behaviors within the context of their food environments, cultural practices, and resources that are sustainable in the long-term. The use of restricted-energy “diets” may be justified in the short-term to improve patient safety for impending surgery, but these practices are not sustainable and often not recommended for long-term health benefits [12].

There may be some instances when orthopaedic surgeons cannot or choose not to engage with additional consultants on this topic. In those instances, they still can provide good information to their patients by using this adapted list of key elements for nutrition counseling from Kahan and Manson [12]:

1. **Start the conversation.** An opening question may include, “Can I talk to you about your weight?”
2. **Structure the encounter.** Use methods such as the 5As (assess, advice, agree, assist, arrange) adapted from tobacco counseling. Also use motivational interviewing, a recommended analytical framework, to help patients consider behavioral change.
3. **Focus on small steps.** Making changes to lifelong behaviors may at first seem overwhelming, but suggest incremental small changes such as substituting energy-dense snacks with nutrient-dense foods. For example, substitute a portion of fruit in place of chocolate.
4. **Use available resources.** The Dietary Guidelines for Americans include evidence-based resources that are web-based and are suitable for both orthopaedic surgeons and patients.
5. **Don’t do it all at once.** Empowering and supporting patients with behavior change is not a one-off event. Rather, it is an ongoing process.
6. **Do not do it alone.** When possible, use other health professionals for support, such as psychologists and dietitians.

**References**

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