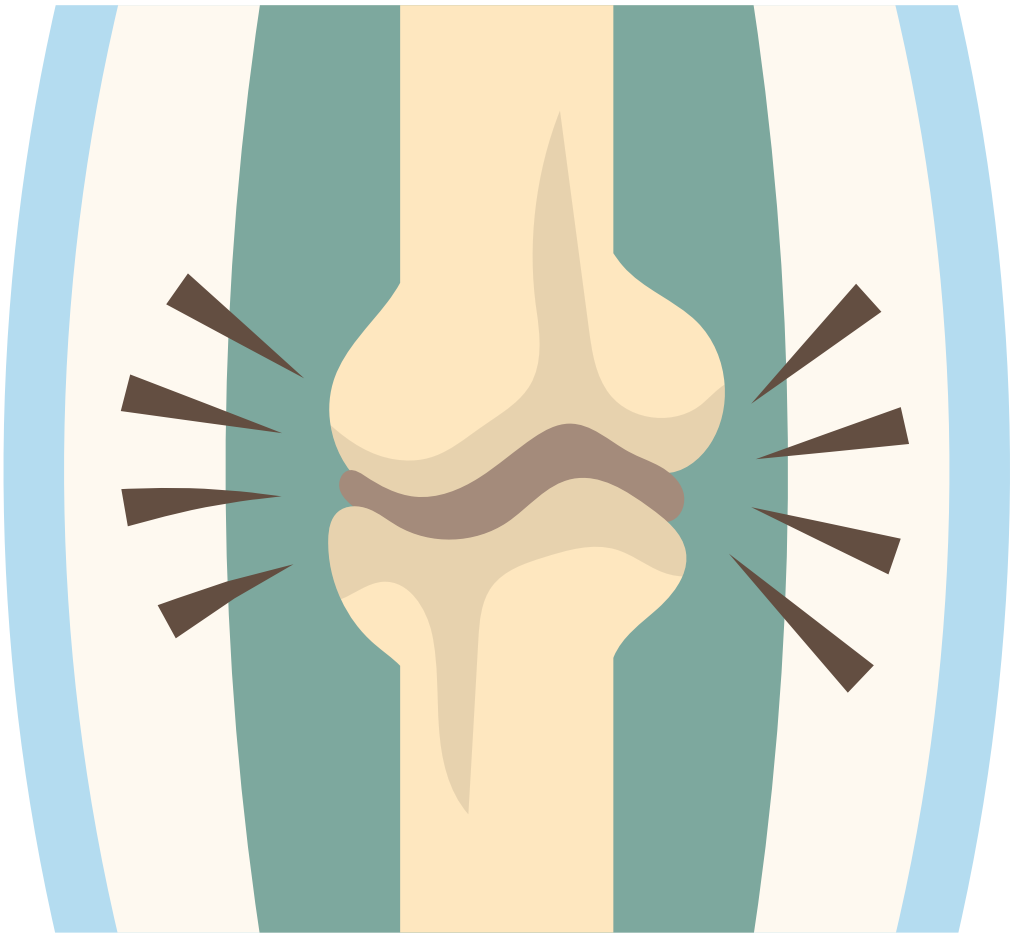

AN ORTHOPEDIC PERSPECTIVE ON OBESITY

BY SCOTT STEVENS, MD, FAAOS

The Editor's Note on "Reducing judgment to create trust" by Zeke McKinney, MD, in the January/February 2021 issue of *Minnesota Medicine*, is a welcome and necessary treatise on the most appropriate and effective ways in which healthcare providers (HCPs) can successfully engage with our patients. It is particularly pertinent to orthopedic surgery, where the detrimental effects of obesity and deconditioning on general musculoskeletal health, and particularly osteoarthritis, are well-known.

Obesity is an independent risk factor for pain, and a strong association exists between obesity and osteoarthritis (OA). OA is linked to obesity and deconditioning by both inflammatory and biomechanical pathways. The inflammatory pathway consists of cytokines produced by adipose tissue leading to low-grade systemic inflammation, with end effects of cartilage and subchondral bone degradation and myofascial pain. The biomechanical pathway involves the increased forces across joint surfaces and, more importantly, reductions in strength relative to weight, which lead to early fatigue and a concomitant increase in load rate and variability of load across the joint. Persons with obesity and knee OA are likely to encounter a greater loss of quality-adjusted life years (QALY) compared to people with "ideal" body weight and knee OA, and lifetime need for a total knee arthroplasty (TKA) is estimated to be 8–32 times higher in individuals with obesity compared to a non-obese cohort. The rate of intra-operative and post-operative complications—especially infection— in joint

arthroplasty for surgical patients with obesity is also substantially higher.

UNFORTUNATELY, MOST OF US IN THE ORTHOPEDIC SURGERY PROFESSION RECEIVED LITTLE TO NO EDUCATION OR TRAINING IN MEDICAL SCHOOL AND RESIDENCY ON THE MULTIFACTORIAL CAUSES FOR OBESITY.

The American Academy of Orthopaedic Surgeons' Clinical Practice Guideline for symptomatic OA of the knee contains a strong recommendation for "strengthening, low-impact aerobic exercises, and neuromuscular education" and a moderate recommendation for "weight loss" in individuals with a body mass index (BMI) over 25. A similar guideline for OA of the hip has a strong recommendation for physical therapy exercises to "improve function and reduce pain" and a consensus statement that "weight loss may be beneficial in the non-operative management of pain, function, and quality of life" in these patients.

Unfortunately, most of us in the orthopedic surgery profession received little to no education or training in medical school and residency on the multifactorial causes for obesity. Social determinants of health that may relate to obesity, such as socioeconomic status, health literacy, food insecurity, the built environment/safe spaces for exercise and recreation, chronic stress and mental illness, among others, are often foreign concepts. We lack knowledge of theories of health behavior and health behavior change that might enable more effective counseling, and we lack the time and/or economic incentive to broach these subjects with our patients. As a result, obesity is often seen as an individual choice that can solely be addressed via individual willpower; despite our status as comprehensive musculoskeletal experts, we tend to ignore issues of obesity and deconditioning, or we "punt" the problem to our primary care colleagues.

The vocabulary surrounding obesity and weight loss is difficult and complex in nature, with meanings that extend far beyond simple definitions or criteria solely related to musculoskeletal health. These words intersect with societal expectations and cultural beliefs that incorporate concepts of health, wellness, beauty and self-esteem, and with individual experiences and attitudes regarding quality-of-life, exercise and physician interaction. Physicians may be reluctant to bring up the topic during an office visit due to lack of knowledge or training, and for fear of offending the patient, which could lead to poor patient-satisfaction scores on employer surveys or online rating sites. An anti-obesity bias among physicians, whether implicit or explicit, is known to exist and may further compromise patient experiences and adversely affect communication between HCPs and patients.

There are ongoing attempts to reframe the issue of obesity from that of diet/exercise/weight loss to a more holistic approach focused on overall wellness and body positivity. Health At Every Size (HAES) is an organization that advocates for a change in our focus, with an emphasis on addressing matters of systemic injustice and health inequity instead of trying to correct individual behavioral choices. While I appreciate HAES' view of obesity as a broader structural issue, and understand and respect that its founders have life experiences and perspectives that may be different than mine, I admit to struggling with some of their concepts. "Celebrating body diversity" and a claim that "we've lost the war on obesity," in my opinion, minimize the detrimental effects of obesity on musculoskeletal health and can be interpreted as presenting a binary choice between either behavior change lead-

ing to misery and frustration or body acceptance resulting in happiness and wellness. Overall, HAES believes that "behavior change is valuable" and that "health-promoting behaviors make sense for everyone" but places far more emphasis on community and societal factors that lead to health disparity and inequity.

How, then, can orthopedic surgeons (and healthcare providers in general) address issues of obesity and deconditioning that are crucial in optimizing our patients' musculoskeletal health, and how do we best advocate for and dialogue with our patients in an effective and caring manner?

TAKE TIME TO LISTEN

Many patients will preface their comments about back, hip or knee pain with "I know my weight is not helping" or "I'm trying to lose weight, but …" I've had many patients over the past year mention how the stress and limitations due to the COVID-19 pandemic have affected their ability to optimize their health behaviors. This presents an opportunity to discuss how obesity and deconditioning may affect their musculoskeletal problem and, more importantly, to acknowledge the multifactorial causes of obesity and deconditioning and to emphasize that individual behavior change is only one small contributor and is a skill that can be developed through theory-based intervention. It is also important to respect the wishes of patients who do not wish to discuss these matters as they relate to orthopedic conditions, as honoring a patient's wishes preserves autonomy and is likely to lead to a heightened sense of trust and an improved physician-patient relationship.

BE AWARE OF IMPLICIT BIAS

Many physicians have achieved goal-oriented success in part through hard work and delayed gratification. There may be a tendency to expect that others will be able to or wish to adopt similar methods, and those who can't or won't are either lazy or not invested in their health status. Healthcare providers may also believe that persons with obesity have a desire to be thinner, fitter or more active, yet this may not be the case or in any way relate to the reason for an office visit. Prior studies have found a high number of patient reports of inappropriate comments made by physicians about their weight, and the psychological consequences of weight bias can include increased vulnerability for depression, anxiety, poor self-esteem and poor body image and suicidal acts and thoughts. It's important to recognize and defend against our unconscious biases and remember that a person's overall health and wellness encompasses a great deal more than a single musculoskeletal problem or physical malady.

FOCUS ON FITNESS

Instead of an initial discussion centered around "obesity," BMI, diet or weight loss, emphasize the importance of core and lower-extremity muscle strength and endurance in decreasing pain and improving function, and provide referral to physical therapy for instruction on a home- or gym-based program of exercise. A strong patient who is heavier than "ideal" weight is likely to have far fewer problems with pain and/or ambulatory function than an individual with poor muscle tone and stamina with a BMI under 25.

LEARN ABOUT THEORIES OF HEALTH BEHAVIOR AND HEALTH BEHAVIOR CHANGE

Educating oneself on concepts such as perceived severity and susceptibility, perceived benefits and barriers and self-efficacy as influencing individual health choices can be instrumental in understanding our patients and can assist with each individual's care plan. Knowledge of how social determinants; structural inequity; community capacity; the diffusion, dissemination, and implementation of innovations; and social messaging affect health and health behaviors enables a greater understanding of the overlying societal effects that are outside of individual control. An outstanding resource is *Health Behavior: Theory, Research and Practice,* fifth edition, by Karen Glanz et al.

ADVOCATE FOR POLICIES THAT OPTIMIZE COMMUNITY HEALTH RESOURCES AND ADDRESS EXISTING HEALTH INEQUITY

Availability of and access to affordable and nutritious food, and the provision of safe and walkable neighborhoods and other community spaces for exercise and recreation, are perhaps the two factors most pertinent to musculoskeletal health, but stability in housing and employment and opportunity to earn a living wage also can serve to reduce inequity and improve health. Make your voice heard at the local, state, or national level.

Through a lens that sees obesity and deconditioning as a complex and multifactorial issue, we can institute appropriate intervention at individual, community and societal levels, with the goal of improving musculoskeletal health and optimizing function and quality-of-life for all. **MM**

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