

## Is it Time to Say Goodbye to BMI?

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Nearly 200 years ago, Adolphe Quetelet, a mathematician and astronomer, proposed a simple equation based upon his studies of the “normal man.” In the 1940s, Louis I. Dublin, the vice president of Metropolitan Life Insurance, used Quetelet’s index to develop tables to predict the increased death rate (and resulting insurance payout) of obese policyholders.<sup>1</sup> Neither of these men attended medical school.

Quetelet’s theories were based on probability and statistics, not on medicine or research. He applied his equation among sexes and genders indiscriminately. Dublin’s data were based upon a population that could afford insurance during and directly after the Great Depression—namely rich, white men.

So why do we still use BMI?

Make no mistake: obesity is an epidemic. As of 2016, 39% of adults are overweight.<sup>2</sup> An additional 13% are obese.<sup>2</sup> Obesity has tripled since 1975. In 1998, the NIH and CDC re-assessed BMI categories, lowering the normal BMI guideline from 27.8 to 25. This reclassified 29 million Americans as overweight overnight.<sup>3</sup> However, BMI alone cannot predict health or medical history. LeBron James is a 16-time NBA All-Star, with a BMI of 26.8. Six-time Super Bowl champion Tom Brady has a BMI of 27.4. Certainly no one would call either of these athletes “unhealthy.” Their weight is likely made up of muscle and little (if any) subcutaneous fat, which is the underlying cause of increase of comorbidities. And yet, their BMI betrays them.

Most plastic surgeons have a BMI cap, above which they decline to operate. Some plastic surgeons require a patient to lose weight and reduce their BMI before a surgical procedure. Patients who feel discriminated against for their weight may avoid seeking elective or even necessary medical attention.<sup>4</sup> Patients who feel judged by their primary care physicians are less likely to successfully lose weight.<sup>4</sup> These patients also experience higher rates of low self-esteem and depression, which is something cosmetic surgery seeks to amend.<sup>4</sup>

A recent study by Murshid et al found that complication rates between obese and nonobese patients seeking

abdominoplasties were statistically insignificant over the follow-up period.<sup>5</sup> The author goes so far as to state, “Our study results suggest that patients with a BMI greater than 30 in and of itself should not be viewed as a strict contraindication to abdominoplasty.”<sup>5</sup>

It is easy to understand that people can make great patients on paper, but in practice, they are not good matches for surgery. Surely the opposite must be true. Why rule out up to two-thirds of the US population based on a formula proposed hundreds of years ago? Science advances constantly, and plastic surgery prides itself on being on the cutting edge of medicine. We do not need further research to determine if BMI is still a valid instrument to assess risk, but why it ever was.

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### DISCLOSURE

*The author has no financial interest to declare in relation to the content of this article.*

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Received for publication November 8, 2021; accepted November 10, 2021.

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*Plast Reconstr Surg Glob Open* 2022;10:e4039; doi: [10.1097/GOX.0000000000004039](https://doi.org/10.1097/GOX.0000000000004039); Published online 21 January 2022.