

Model estimates risks and benefits of bariatric surgery for severely obese

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A computerized model suggests that most morbidly obese individuals would likely live longer if they had gastric bypass surgery, according to a report in the January issue of *Archives of Surgery*. However, the best decision for individual patients varies based on factors such as age, increasing body mass index and the effectiveness of surgery.

An estimated 5.1 percent of the U.S. population is morbidly obese, often defined as having a [body mass index](#) (BMI) of 40 or higher, according to background information in the article. Available evidence suggests that dietary, behavioral and pharmacologic treatments frequently do not result in meaningful weight loss for individuals in this group. Bariatric surgery appears to be the only effective therapy for promoting clinically significant weight loss and improving obesity-related health conditions for the morbidly obese. However, the procedure is not without risk, including in-hospital death.

Daniel P. Schauer, M.D., M.Sc., of the University of Cincinnati Academic Health Center, and colleagues used two nationally representative surveys and a recent large observational trial to construct a model estimating the benefits and risks of gastric [bypass surgery](#) for individuals with morbid obesity. The model included data from almost 400,000 individuals nationwide to estimate the risk of death from obesity and its complications; data from 23,281 patients undergoing bariatric surgery to calculate in-hospital death rates following the procedures; and outcomes from participants in a seven-year study to determine the effects of surgery on survival and to calibrate and validate

the model.

According to the resulting model, an average 42-year-old woman with a BMI of 45 would gain an estimated additional three years of [life expectancy](#) as a result of undergoing bariatric surgery; a 44-year-old man with the same BMI would gain an estimated 2.6 additional years.

Additional analyses revealed that younger women with higher BMIs are projected to gain the most life expectancy from surgery. Younger men with higher BMIs might also gain more life expectancy after surgery, but the gain would be less for men than for women in each subgroup.

"Younger patients have lower surgical risk and more time over which to realize the benefits of surgery," the authors write. "For older patients, the gain is smaller, and for some, gastric bypass surgery will decrease life expectancy."

"The decision analysis presented here is a step forward in understanding optimal patient selection but also highlights some of the areas for which better data are needed," they continue. For instance, the risk-benefit balance changes based on how effective bariatric surgery is likely to be. More information is needed about how individual patient characteristics—for example, having diabetes—affect the efficacy of the procedure.

"In conclusion, while not all patients are guaranteed a good outcome, our model indicates that gastric bypass increases life expectancy for most patient subgroups; however, for those at high surgical risk or in whom efficacy of surgery is likely to be low, benefit will be minimal," the authors write. "We believe results of this analysis can be used to better inform both patients' and physicians' decisions regarding [gastric bypass surgery](#)."

More information: Arch Surg. 2010;145[1]:57-62.

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