

Surgical Complications Twelve Times More Likely in Obese Patients

Johns Hopkins researchers find disparity in outcomes after elective plastic surgery

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Obese patients are nearly 12 times more likely to suffer a complication following elective plastic surgery than their normal-weight counterparts, according to new research by Johns Hopkins scientists.

“Our data demonstrate that obesity is a major risk factor for complications following certain kinds of elective surgery,” says [Marty Makary, M.D., M.P.H.](#), an associate professor of surgery at the Johns Hopkins University School of Medicine and leader of the study published online in the journal *Plastic and Reconstructive Surgery*.

Not only are these findings relevant to physicians who need to pay special heed to issues such as potential surgical site infections in heavier patients but, the authors argue, they are relevant to policymakers whose increasingly applied metrics for surgical quality and reimbursement do not account for the higher risk of worse outcomes in the obese.

“With the government and other insurers penalizing doctors whose patients get infections or are readmitted to the hospital — and with obese patients more likely to have those problems — policymakers need to make sure they aren’t giving physicians financial incentives to discriminate on the basis of weight,” Makary says.

Thirty-four percent of adults in the United States are now estimated to be obese (those with a body mass index above 30), up from just 15 percent a decade ago. Meanwhile, the number of people nationwide having elective plastic surgery has also increased in recent years — with annual plastic surgery volume up 725 percent between 1992 and 2005.

Surgical outcomes are increasingly judged using standardized measures to evaluate quality and to inform the public and insurance companies. These metrics also are used more and more to penalize hospitals with higher complication rates. But, Makary says, they do not take into account that obese patients may suffer more complications, as this new research finds.

Operations on obese patients are more taxing, says Makary, a surgeon himself. These surgeries take usually take longer, the operating fields are deeper, the spaces in which an infection can set in are often greater and blood flow in fat tissue is less than in other types of tissue, which results in slower healing, he says.

And yet, he adds, “payments are based on the complexity of the procedure and are not adjusted for the complexity of the patient.”

In the study, Makary and his colleagues examined insurance claims data from seven Blue Cross and Blue Shield plans and identified patients who underwent elective breast procedures covered by insurance between 2002 and 2006. There were 2,403 patients in the obese group and 5,597

patients in the normal weight control group. The most common procedure, by far, was breast reduction, followed by breast reconstruction, augmentation and mastopexy (breast lift). Within 30 days of surgery, 18.3 percent of the obese group experienced at least once complication, compared to 2.2 percent of patients in the control group. The differences between the two groups were most pronounced in complications, such as inflammation (with obese patients 22 times more likely to suffer a complication), infection (13 times) and pain (11 times).

Makary says he fears some surgeons avoid taking obese patients because “it’s more work, and it’s a more complex surgery as opposed to operating on a thin patient. And the payment is the same.”

“There are definitely incentives there for surgeons and institutions to select healthier patients,” he adds. “They’re getting reimbursed less per unit of work for obese patients.”

Makary says he hopes more research will be done on the role of obesity in surgical complications covering a wider variety of surgeries and that new metrics can be developed to account for any differences due to obesity.

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Along with Makary, other Hopkins researchers involved in this study include Andrew D. Shore, Ph.D.; [Roger Johns, M.D.](#); [Jeanne M. Clark, M.D., M.P.H.](#); and [Michele Manahan, M.D.](#)